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Proliferation Issues

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PROLIFERATION ISSUES

JPRS-TND-92-032

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9 September 1992

[This report contains foreign media information on issues related to worldwide proliferation and transfer activities in nuclear, chemical, and biological weapons, including delivery systems and the transfer of weapons-relevant technologies.]

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MOZAMBIQUE

'Toxic Weapon' Fired on Government Troops

Arms Said To Belong to RSA Army

MB2708181392 Maputo Radio Mozambique Network in Portuguese 1730 GMT 27 Aug 92

[Text] Radio Mozambique's "Voice of combat" program reported today that the toxic weapon fired against Mozambican Government troops by the Mozambique National Resistance [Renamo] in Ngungwe, Maputo Province, on 16 January, belonged to the South African Defense Force [SADF].

The "Voice of combat" program reports that that weapon was used experimentally against Mozambican troops. It said the SADF had developed that weapon with the aim of using it against African National Congress guerillas, should the armed struggle continue in South Africa. That source reports that, two days prior to the incident, Renamo elements had warned people in Ngungwe area to clear the vicinity of the base because of what they alleged to be security reasons. After this warning, a South African aircraft and a South African vehicle were seen traveling from south to north along the border area.

Shortly after the chemical weapons had been fired on 16 January, another aircraft was sighted, and it apparently belonged to the South African Air Force.

RSA Army Denies Allegation

MB2808202392 Johannesburg SABC TV 1 Network in Afrikaans 1800 GMT 28 Aug 92

[Text] The South African Army has rejected allegations by the Mozambican Army that South Africa was directly responsible for an alleged chemical attack against a unit of the Mozambican commandos near the border between the two countries in January this year.

According to a report by the Mozambican Army, the chemical weapons allegedly belonged to South Africa and was fired by black South African troops.

The incident reportedly took place on 16 January when Mozambican soldiers were about to launch an offensive against a Renamo [Mozambique National Resistance] camp. Eight Mozambican soldiers were killed or are still missing.

A spokesman from the South African Army said similar allegations had been made in the past, but had been proven incorrect. He said that there had been an understanding between the two countries whereby such allegations could be discussed and resolved.

Geneva Delegate Reiterates Support for CW Ban*OW0509041092 Beijing XINHUA Domestic Service
in Chinese 0713 GMT 3 Sep 92*

[Text] Geneva, 3 September (XINHUA)—Hou Zhitong, head of the Chinese delegation to the Geneva Conference on Disarmament and ambassador for disarmament, reiterated here today that China has always supported a comprehensive ban and total destruction of all chemical weapons and their production facilities.

Speaking at the final plenary session of the conference, Hou Zhitong pointed out: Major progress has been achieved this year in negotiations on drafting a convention on banning all chemical weapons, thanks to the joint efforts of all member states and vigorous support from the international community. On 26 August, the ad hoc committee on chemical weapons agreed to transmit a work report attached with to a draft of the "convention on banning the development, production, storage, and use of chemical weapons and on their destruction" to the Conference on Disarmament for deliberation. The Chinese delegation took part in the deliberations.

Hou Zhitong said that at the instruction of the Chinese Government, he had explained its position on the ad hoc committee's report and the attached draft convention.

He said: As a nonchemical weapon state and a victim of the scourge of foreign chemical weapons, China has always stood firmly for the early conclusion of a chemical weapons convention so as to forever free mankind from the danger of such weapons of mass destruction and promote world peace and security effectively.

China has always attached great importance to, actively participated in, and made due contributions to convention negotiations. The Chinese Government is willing to continue to work together with other countries to realize a chemical weapon-free world as soon as possible.

He said: Although the ad hoc committee's report and the attached draft convention on chemical weapons generally reflect the outcome and major progress in negotiations achieved by the Conference on Disarmament and its ad hoc committee on chemical weapons over the past years, divergencies remain in the current complex situation. The draft convention contains some positive provisions on which years of negotiations have culminated in a consensus. The provisions conform with the fundamental objective of complete prohibition and thorough destruction of all chemical weapons. Comprehensive and earnest implementation of the provisions will contribute to safeguarding world peace and security.

He said: The Chinese Government believes that an essential guarantee to realizing the fundamental objective of the convention is for the relevant states to fulfill without reservation or delay these obligations of international law. Meanwhile, the draft convention does not reflect adequately the just demands and reasonable propositions of many developing countries, including China; and it also lacks balance in a number of important issues. For this reason, China cannot but express concern and reservations.

He said: China has once again expressed sincere hopes that constructive consultations and negotiations will be held in the future for solving pending divergencies and eliminating drawbacks of the draft convention so as to realize the fundamental objective of the convention.

Hence, China, as a major developing country and proceeding from the overall interests of world peace and security, is willing to take part in the discussion for consensus on the report and its attached draft "convention on banning chemical weapons" prepared by the Conference on Disarmament.

State Council Approves Nuclear Power Plant Report*OW3008143892 Shanghai People's Radio Network
in Mandarin 2300 GMT 29 Aug 92*

[From the "Morning News" or "News and Weather" program]

[Text] According a report by WEN HUI BAO, the State Council has formally approved a report on the feasibility of the second phase construction project for Qinshan Nuclear Power Plant. The design work is being conducted at the China No. 2 Nuclear Power Design Institute.

According to a responsible person for the second phase construction project, the construction will start at end of this year. The scale of the second phase construction work for Qinshan Nuclear Power Plant is 1.2 million kw. Two 600,000 kw pressure-water generator sets will be installed. The site of the second phase construction for the nuclear power plant will be located in Haiyan County's Yangliushan, east of (Changchuanba). At present, preparations for the construction are all completed.

Progress Achieved in Nuclear Probing Technology*OW1508140392 Beijing XINHUA in English
1338 GMT 15 Aug 92*

[Text] Beijing, August 15 (XINHUA)—China has made new progress in the peaceful utilization of nuclear energy and new achievements have been made in improving the precision of industrial inspection and metrology.

The Shijiazhuang Radiation Technology Exploration Center, which is part of the No. 404 Plant of the Nuclear Industrial General Corporation of China, has succeeded in making a serial intellect non-contact industrial monitoring meter.

The distinguishing characteristics of this new industrial monitor lies in non-contact monitoring and measuring, which prevents the sensor from contacting directly the substance being inspected, thus greatly improving its precision and reliability.

According to an appraisal conducted by the State Institute of Metrology, the precision of this meter in a dynamic state reaches 0.15 percent, far superior to the performance of similar apparatus already in use.

Nuclear-Detection Technology Moves Ahead

HK1708113092 Hong Kong ZHONGGUO TONGXUN SHE in Chinese 1132 GMT 5 Aug 92

[Text] Beijing, 5 Aug (ZHONGGUO TONGXUN SHE)—A few days ago, a high-definition neutron gamma power spectrometer [gao fen bian lu zhong zi fu huo jia ma neng pu ce jin xi tong 7559 0433 6587 3764 0022 1311 0199 3752 8026 3854 5174 6225 3261 6651 4762 4827] passed its appraisal examination in Beijing. It is a token that China's nuclear detection technology has entered international advanced ranks once more.

Before this, only the United States possessed this technology in the world. China is now the second country to possess this technology after the United States.

The high-definition neutron gamma power spectrometer is the result of the comprehensive application of modern nuclear spectrometers, nuclear detection technology, micro-electronic technology, and others. It is now the major development direction for nuclear detection technology.

The success is the result of joint research and development by the Zhejiang Provincial Coal Geology Prospecting Corporation of the China Coal Geology Headquarters and the Nuclear Technology Application Research Department of the Research Institute of Atomic Energy Sciences.

Progress Seen in Global Nuclear Disarmament

OW3108165592 Beijing Central People's Radio Network in Mandarin 0500 GMT 31 Aug 92

[From the "International News and Current Events" program]

[Text] Dear listeners, the end of the cold war has brought about great changes in global strategic nuclear power. Large numbers of offensive nuclear weapons have been demolished or dismantled following the implementation of the U.S.-Soviet START Treaty. The new situation has prompted major nuclear states to start revising their nuclear deterrent strategies and to actively promote the modernization of their strategic nuclear forces. In this program, we will brief you on the changes in global strategic nuclear power over the past year.

Major progress was made in global nuclear disarmament over the past year. Between September and October of last year, the United States and the former Soviet Union reached a new agreement on nuclear disarmament. According to the agreement, the United States and the Soviet Union will destroy large numbers of their tactical nuclear arms, including thousands of nuclear artillery pieces, the U.S.-made Lance missile, the Soviet-made Scarab missile, the U.S.'s (?B-6E) nuclear cruise missile and B-517 nuclear bomb, and the former Soviet Union's (?Eel) and (?Gladiator) cruise missiles. These weapons provided the major nuclear deterrence in the East-West confrontation during the cold war. We still have a long way to go in realizing our hope of world peace even if all these weapons were destroyed, however, since START limits the United States and the Soviet Union to no more than 6,500 nuclear warheads each. This means that the United States and the

Soviet Union will have a total of 13,000 nuclear warheads. Such massive nuclear arsenals hang over our head like a sharp sword.

In his State of the Union address delivered at the end of January, President Bush put forward a new proposal on massive nuclear disarmament which includes strategic surface, sea, and air nuclear arms. The United States proposed to Russia that both sides reduce their strategic nuclear warheads to 4,700 for the United States and 4,400 for the regions of the former Soviet Union. Fully agreeing to President Bush's new proposal on nuclear disarmament, Russian President Yeltsin proposed plans for deeper cuts. He suggested that each side limit their strategic nuclear warheads to around 2,500, that the CIS completely lift its alert status for nuclear arms, and that nuclear arms be directed away from the United States. Half a year later, the United States and Russia reached an agreement of understanding on START based on this proposal. Both sides agreed to additional massive cuts in their offensive strategic arms. The United States and Russia agreed that seven years after the implementation of the START Treaty, each side should have no more than a total of 3,800 to 4,250 nuclear warheads. A problem that ensuing from the START Treaty was how to destroy the excessive nuclear arms. This is a difficult problem for both the United States and the CIS. The destruction of tens of thousands of nuclear warheads and all sorts of nuclear strategic arms poses a difficult problem, technically and economically. That was why the United States and Russia, in their agreement of understanding on START, only vaguely stated they would trim their respective nuclear warheads to not more than 3,000 to 3,500 by the end of 2000, provided the United States is willing to provide the funds needed to help Russia destroy or dismantle its strategic offensive arms. There is very little hope of achieving that goal. Reports indicate that there are about 27,000 nuclear warheads in the former Soviet Union. Russia, the CIS, and other nuclear states do not possess the capability to destroy such massive amounts of nuclear warheads. According to reports, the U.S. Congress approved \$400 million in financial aid to help regions under the former Soviet Union destroy their nuclear arms. We have yet to know how much can be accomplished with \$400 million. Furthermore, the U.S. economy has been in a recession over the past few years; it is not easy to deliver the full \$400 million approved by the U.S. Congress. The process of reducing strategic nuclear arms has at long last begun, despite the many difficulties facing it.

It is a relief that the two biggest nuclear powers are reducing their arsenals. Massive cuts in offensive nuclear weapons do not mean the disappearance of the nuclear threat, however. The United States, Russia, Britain, and France still consider nuclear deterrence the major component of their strategic plans. They are actively pushing for the modernization of their strategic nuclear forces in order to adapt to the post-cold war international situation. These countries have revised their nuclear deterrent strategies over the past few months. The United States has suggested turning its previous nuclear deterrent theories—which were mainly targeted at the USSR—into a comprehensive, multilevel nuclear deterrent strategy directed against other regions. It

has proposed adjusting its strategic defense plan into a global system to counter limited nuclear attack; it has also proposed strengthening its leading position in high technology to guarantee its strategic superiority.

Britain insists that nuclear deterrence is the principal element of its national defense strategy, however. It will not limit the quantity of its nuclear arms in light of other countries. Britain feels it must possess enough nuclear weapons to strike at potential aggressors. France has revised its previous concept of limited and sufficient nuclear deterrence in light of the new situation, and has proposed the theory of fundamental sufficiency in nuclear deterrence. France believes that one should possess a minimum nuclear deterrent to cope with all types of contingencies or the possible infringement of its interests by potential enemies. Nuclear deterrence has diminished in the CIS, where the danger of nuclear proliferation has arisen following the disintegration of the former Soviet Union. Therefore, the CIS has concentrated on coordinating the actions of its member states. To this end it has drafted a new security strategy based on a unified strategic airspace and a unified command system to effectively control and supervise nuclear arms and other weapons of mass destruction, and to counter global nuclear threats directed against it. A common distinctive aspect of these new thoughts on nuclear strategy is that all parties, having been deprived of a clear enemy following the end of the cold war, have conjured up an imaginary enemy to prove the need for the existence of nuclear arms.

(William Atkins), director of the Military Affairs Research Department of Greenpeace, believes this is a product of rigid convictions in the need for eternally preserving the system of nuclear warfare. Because it is not clear what constitutes an imaginary enemy or a global threat, the major nuclear states regard efforts to upgrade the mobility, survivability, and sustainability of nuclear arms as the major focus in the development of nuclear power. They actively promote efforts to modernize strategic nuclear forces. To guarantee its nuclear superiority, the United States plans to modernize and retool its intercontinental missile units, strategic bomber units, and submarine-based strategic missile units by the end of the 1990's. It will continue to maintain its triad of strategic nuclear power. Britain and France will focus on modernizing their ballistic missile nuclear submarines and on developing their submarine-launched strategic nuclear missile systems in order to ensure the reliability of their nuclear deterrent. The CIS has also been pushing for the modernization of its strategic nuclear forces despite its economic difficulties. It plans to build and deploy its (?TIV)-class ballistic missile nuclear submarines and various types of high-performance strategic bombers and intercontinental ballistic missiles. The new nuclear strategies

adopted by these countries show that the theory of nuclear deterrence, which is a product of the cold war, has not disappeared following the end of the cold war. Mankind still lives under the threat of nuclear arms.

Nuclear Aid to DPRK Reportedly Halted in 1987

*SK0809044492 Seoul CHOSON ILBO in Korean
8 Sep 92 p 2*

[Text] It was confirmed on 7 September that China, watchful of the danger posed by North Korea's nuclear development, decided to stop transferring nuclear technology to North Korea in 1987 and withdrew all the nuclear technicians who had been sent to North Korea.

It was also learned that when North Korean President Kim Il-song visited China in early October last year, China refused to arrange an interview for him with Deng Xiaoping on the grounds that the latter had already retired and instead allowed Kim Il-song to meet only leaders of the newer generations, such as Jiang Zemin.

Until now, Western observers believed that Kim Il-song may have met with Deng Xiaoping during his visit to China last October.

A high-ranking government official, who had played the role of a behind-the-scene channel in negotiations with China over the establishment of diplomatic relations, said on 7 September: In the course of holding talks with our country over the establishment of diplomatic relations, China said that it was around 1987 when it became suspicious that North Korea was seeking to develop nuclear weapons behind its plan to build nuclear reactors; a high-ranking Chinese official was cited as the source.

The official continued: China confirmed that North Korea had given it no information on the nuclear facilities in Yongbyon and that China made clear its objection to North Korea's nuclear development. It is my knowledge that the Chinese Government, in the course of negotiations with Korea, shared the same opinion with us on North Korea's nuclear development and expressed its intention to make joint effort to realize the denuclearization of the Korean peninsula.

He also said: It was confirmed that during his visit to China last October, Kim Il-song not only could not meet Deng Xiaoping but also had to return to Pyongyang after hearing only unhappy words that China would keep supplying foodstuffs and oil at the production cost, also known as fraternal prices, but wanted North Korea to pay in hard currency for the rest of the goods imported from China. Shortly after he returned to Pyongyang, Kim Il-song wrote a letter to Deng Xiaoping asking him to delay the establishment of diplomatic relations between the ROK and China, but he never received any reply.

INDONESIA

Plan To Purchase Scud Missiles Reported

Air Force Chief Discloses Plan

BK0409052892 Jakarta KOMPAS in Indonesian
24 Aug 92 pp 1, 16

[Excerpt] Surabaya, KOMPAS—The Indonesian Government is considering purchasing Scud missiles, manufactured by the former Soviet Union, as one of the measures to boost the country's air defense system. Indonesian Air Force Chief of Staff Marshal Sibun disclosed this to KOMPAS in Surabaya on Saturday 22 August.

"We are collecting data on the weapons we are going to buy and such data will be collated with our defense needs," he said, adding that the Indonesian Air Force will buy not only the guided missiles, but also other armament systems. The purchase of Scud missiles is only one of the available options. However, the Air Force chief of staff declined to elaborate on the type of armament system Indonesia is going to buy.

Scud missiles became very popular during the Gulf war when Iraq used them to bombard cities in Israel and Saudi Arabia. [passage omitted]

Military Dismisses Report

BK2608154892 Jakarta Radio Republik Indonesia
Network in Indonesian 1500 GMT 26 Aug 92

[Text] The Indonesian Armed Forces [ABRI] has no plan to buy Scud missiles. The ABRI Information Service today issued this statement to correct press reports, which quoted Air Force Chief of Staff Marshal Sibun as saying that ABRI was considering buying such missiles. While it is true that many dealers have offered the sale of many kinds of weapons and military equipment during this post-cold war era, ABRI always thinks in terms of its own needs. In procuring military equipment, ABRI always decides the priority list first in line with the existing strategic plan. After that, ABRI will decide what is really needed and what the market has to offer. As for the Scud missiles in particular, ABRI has not yet considered buying them.

JAPAN

Russia Offers To Sell Highly Enriched Uranium

OW0309114692 Tokyo KYODO in English
1121 GMT 3 Sep 92

[Text] Tokyo, Sept. 3 KYODO—Russia has offered to sell to Japan the highly-enriched uranium it no longer needs owing to the breaking up of nuclear weapons, a senior Foreign Ministry official said Thursday.

The informal offer has been made to the Ministry of International Trade and Industry's Agency of Natural Resources and Energy and the Japanese electric power industry by the Russian Government, he said.

The official said Japan replied that it has no intention at the moment of buying the uranium.

Highly-enriched uranium for use in nuclear weapons may be diluted for use as nuclear power plant fuel.

Russia's highly-enriched uranium, now becoming redundant because of the breaking up of nuclear weapons, is estimated to total 500 tons, worth about 7.2 billion dollars.

Russia has offered to sell the uranium to countries with atomic power plants in an effort to raise funds for economic reconstruction.

The United States late in August initialed an agreement to purchase a total of about 200 tons of such uranium from Russia over a period of 10 years.

Ministry sources said when a Japanese official in charge visits the U.S. and Canada soon for atomic power accord talks, he will exchange opinions with U.S. and Canadian officials on the Russian offer.

Cooperation Urged in Russian Nuclear Conversion

OW0309092492 Tokyo KYODO in English
0819 GMT 3 Sep 92

[Text] Tokyo, Sept. 3 KYODO—The chairman of the Japan Chamber of Commerce and Industry said Thursday that Japan should cooperate with Russia in ensuring peaceful use of nuclear materials from dismantled nuclear arms of the former Soviet Union.

Rokuro Ishikawa, commenting on Russian President Boris Yeltsin's Japan visit this month, said Japan should offer the cooperation on condition the pending bilateral dispute over four Russian-held islands off Hokkaido is settled.

He said major projects for Japanese-Russian economic cooperation, possibly including the nuclear issue, will be proposed during Yeltsin's talks with Japanese officials.

Russian Deputy Prime Minister Mikhail Poltoranin, during his talks with Ishikawa in Tokyo in early August, asked Japan for economic cooperation regarding peaceful use of large amounts of plutonium and enriched uranium to be generated in the dismantling of nuclear arms, the business leader said.

Russia hopes to sell the materials as fuel for nuclear power generation to the West, Ishikawa said.

Russian Nuclear Training, Safety Exchanges Planned

OW0309151592 Tokyo KYODO in English
1314 GMT 3 Sep 92

[Text] Tokyo, Sept. 3 KYODO—Japan and Russia have basically agreed to exchange a note on Japan's support for enhancing the safety of Russian nuclear power plants when Russian President Boris Yeltsin visits Japan in mid-September, government sources said Thursday.

The agreement calls for Japan to help construct a nuclear operation technical center and install two accident-sensor systems in Russia as well as receive nuclear engineering trainees from Russia, the sources said.

Japan will carry out the plan under the framework of its grant of 25 million dollars for emergency safety measures to nuclear power plants in the former Soviet Union and Eastern Europe.

The agreement on the framework was reached at the July summit meeting of the Group of Seven leading industrial nations in Munich.

S&T Agency, Russia To Improve N-Reactor Technology

*OW0809050592 Tokyo KYODO in English
0432 GMT 8 Sep 92*

[Text] Tokyo, Sept. 8 KYODO—Japan will join forces with Russia to improve the reliability and operational control of fast breeder reactors, the Science and Technology Agency said Tuesday.

Fast breeders are nuclear reactors capable of producing more plutonium than they consume as fuel during the energy-producing process.

The projected 100 million yen research costs are included in the agency's budgetary request for fiscal 1993. The agency said it will propose creating the joint project at the Russian International Science and Technology Center, an institute that provides jobs for the former Soviet Union's nuclear specialists.

Agency officials said the results of the research project will be used in the operation of Japan's fast breeder research reactor, named "Monju," in a nuclear power plant in Tsuruga, Fukui Prefecture. The reactor is to reach its critical state for starting energy production next March.

As fast breeder reactors use nuclear fuel more effectively than other types of reactors, Japan will concentrate its future nuclear policy on them, agency officials said.

West To Help Divert Russian Nuclear Fuel Use

*OW0309092892 Tokyo KYODO in English
0653 GMT 3 Sep 92*

[Text] Tokyo, Sept. 3 KYODO—Western nations will work together to divert nuclear fuel used in Russian armaments to peaceful use, a senior Japanese trade official said Thursday.

Either the Organization for Economic Cooperation and Development (OECD) or the Group of Seven (G-7) industrialized nations may lead the effort to find peaceful uses for the highly concentrated uranium and plutonium, said Vice International Trade and Industry Minister Yuji Tanahashi.

Tanahashi told a news conference the Japanese Government has also studied ways to cooperate in this issue.

"Since we have no technology for dismantling nuclear arms, Japan may cooperate in storing nuclear fuel," he said.

He suggested that Japan does not intend to buy nuclear fuel directly from Russia, however, saying, "Japan has enough nuclear fuel stocks for atomic power generation to meet demand until 2000."

'Nuclear Ambitions' Justified Politically

*924P0168A Moscow PATRIOT in Russian
No 31, Aug 92 [Signed to press 4 Aug 92] p 5*

[Unattributed article: "Japan's Nuclear Ambitions"]

[Text] After World War II Japan quickly built up its "self-defense forces." Hiding behind a "peace constitution," at the same time it decided to realize its long-standing dream, to become a possessor of nuclear weapons.

Stopping the militarization of Japan and the growth in its nuclear potential was the pressing demand of the defenders of world peace and security in Asia and throughout the world. The DPRK [Democratic People's Republic of Korea] Institute of International Problems issued a special memorandum, deeming it necessary to inform the world of the dangerous point which Japan's nuclear ambitions had reached.

The rulers and representatives of the military circles of Japan made an attempt to "politicize" the development and acquisition of nuclear weapons. The prime minister and the ministers of Japan and the parliamentarians from the Liberal Democratic Party began to carry out such an intention in the late 1950s. As early as 7 May 1957 the prime minister of Japan Kishi announced at a meeting of the budget commission of the House of Councillors: "If there is just one mention of nuclear weapons, everyone regards it as a violation of the constitution. But such an interpretation of the constitution is not right without having seen the further development of the situation. It is impossible to say a stereotyped 'no' to everything that is called nuclear weapons."

Tendencies to justify nuclear armament of the island power were seen later as well. Cabinets were changed and new political figures came to power, but the idea of Japan's nuclear armament continued to exist.

For example, the so-called "three arrows plan of operation" compiled by the Japanese "self-defense forces" in 1963, which envisioned joint operations with the United States against the DPRK, the hypothetical enemy, in content proposed that Japan acquire nuclear weapons. One of the articles of this "plan" was devoted for the most part to the question of their employment by Japan.

The "independent defense" plan compiled in Japan in 1969 also envisioned the need to develop nuclear weapons independently and acquire intercontinental ballistic missiles capable of delivering them to the necessary regions.

At one time from the rostrum of the United Nations the Japanese government expressed the intention to produce nuclear weapons and have them available. Its representatives voted against the drafts of the UN resolution presented under the name "Employment of Nuclear Weapons—A Crime Against Humankind."

Another time in justifying its actions the Japanese government announced: "A complete ban on the employment of nuclear weapons is incompatible with nuclear deterrent forces." "The possibility of a disruption of the nuclear

balance is at hand." And then—more: the Japanese government in seeking nuclear weapons tried to make a nuclear alliance with the United States.

Actively engaged in the development of nuclear weapons, Japan had already completely laid the material-technical basis needed to do this. It was actively developing nuclear technology.

It began to develop nuclear energy in 1956. In January of that year the Japanese government set up a department to manage work in the field of atomic energy in the science and technology ministry. The atomic energy committee, the atomic energy institute, the society on atomic energy matters, and the atomic energy company were in its jurisdiction.

In order to monitor Japanese work on nuclear problems, the United States sold it the "Light-Water Reactor," intended only for American enriched uranium, thus preventing it from developing its own nuclear reactor. In connection with this Japan allocated 404 million dollars and all the same developed a new model of reactor-converter whose main fuel is Canadian natural uranium. It was built in Tsugura, in the prefecture of Fukui, and has in fact been in operation since 1979.

In this way, Japan was freed from U.S. control in the field of production of atomic energy and obtained relative independence in the matter of nuclear development.

As early as the summer of 1987 successes were achieved in a test launching of a Japanese "land-ship" missile at the U.S. Navy Pacific Ocean missile center in California. And they launched a nuclear-powered ship into the water and put an artificial satellite into orbit. This allows us to draw the conclusion that Japan already has the technology for controlling nuclear weapons and their devices along with nuclear development technology.

By the end of June 1991 operating in this country were 41 atomic power plants, and that included the new model of reactor-converter, a uranium enrichment plant, a processing plant, four fuel processing plants, a fuel plant for a transformed nuclear reactor, and two uranium enrichment plants. The electricity-producing capacity is 42 million kilowatts. Roughly 2,000 tonnes of different nuclear substances a year are used to do this.

At the present time 10 atomic power plants, a fast neutron reactor, a uranium enrichment plant, and a structure for storing reactor waste are being built in Japan. There are plans to build four atomic power plants, including a new model of reactor-converter, a processing plant, and a structure for storing radioactive wastes. When these installations are handed over for operation, Japan may become a dangerous nuclear power as a result of the substantial increase in the capacity to produce nuclear weapons.

Japan imports a large amount of nuclear raw material from Canada, France, Great Britain, Germany, South Africa, and other countries. Since the start of this year it has begun to fulfill a major "plutonium plan" and has assumed the goal of producing 400 tonnes of plutonium in the next 30 years.

At the present time Japan already has 26 tonnes of plutonium in storage, which is substantially more than the amount needed for peaceful purposes. More than 3,000 atomic bombs like the one dropped on the city of Nagasaki at one time can be produced from it.

These days the antinuclear organizations, information agencies, and radio stations of different countries are expressing alarm—Japan is ready to supply its army with nuclear weapons.

Testifying before the U.S. Senate Foreign Affairs Committee, the director of the U.S. Institute of Nuclear Control, F. Rebentar, noted that Japan's plan to store plutonium is the main obstacle on the path to the Korean peninsula's nonnuclear status and appealed to the U.S. government to stop that plan.

The leader of the antinuclear Association of the Philippines, R. Sumbulan, stated: "The main question in Japan's plan to ship plutonium by sea from Europe is not safety during transport to Japan but the purpose of importing such a large quantity of plutonium."

If we consider the nuclear technology, materials, electricity, and the electronics, aviation, and dynamically developing space industries of Japan, we should believe that it now has all the potential to instantly become a nuclear power when it decides to, writes the South Korean journal SINDONYA.

Japan is the only victim of a nuclear bombing in the world. However, in order to learn a lesson from the bitter experience of the past, it is rushing along a path fraught with the danger of condemning humankind and the world to another nuclear catastrophe.

States, political parties and organizations, and the United Nations and other international organizations of the Pacific Ocean region, and representatives of various circles of society opposing war and for peace regard the plan of Japan's government and military circles on nuclear armament with increased vigilance and decisively condemn attempts to develop their own nuclear ambitions.

NORTH KOREA

IAEA Conducts 10-Day Ad Hoc Inspection

SK2908080292 Seoul YONHAP in English 0746 GMT 29 Aug 92

[Text] Seoul, Aug. 29 (OANA-YONHAP)—The International Atomic Energy Agency (IAEA) is expected to go to North Korea Aug. 31 for a 10-day third ad hoc nuclear inspection, officials said Saturday.

The IAEA had initially planned to conduct its first routine inspection on North Korea before its Board of Governors' meeting opening at its Vienna headquarters from Sept. 16.

The Agency and North Korea have been negotiating conclusion of a facility attachment which lists nuclear materials and facilities to be opened to routine inspection but could not reach a final agreement, the officials said.

The Board of Governors will review only the results of the three ad-hoc inspections at the September meeting, they said.

While the IAEA made public major parts of its first ad hoc inspection results, it withheld information from the second inspection.

The South Korean Government will wait until the eighth inter-Korean Joint Nuclear Control Commission (JNCC) session Aug. 31 to draw up comprehensive countermeasures, said the officials.

"Routine inspection can only inspect the items included in the facility attachment, but an ad hoc inspection can see everything North Korea listed in its initial report submitted to the IAEA last May which may be more effective in uncovering North Korea's intentions," one official said.

Military Sites May Be Opened to IAEA Inspection

*SK0109143592 Seoul CHUNGANG ILBO in Korean
1 Sep 92 p 2*

[Text] Kong No-myong, the ROK chairman of the Joint Nuclear Control Committee and dean of the Institute of Foreign Affairs and National Security, said on 31 August: It has been confirmed that North Korea was examining a plan to conditionally include military bases as sites for North-South mutual nuclear inspection. As a result, new ground may be broken at the eighth North-South high-level talks slated for 16 September.

At the news briefing following the eighth meeting of the Joint Nuclear Control Committee, Chairman Kong said: "Although the North has refused even to discuss the issue of inspection, they changed their stance by accepting the discussion of the inspection regimes on the condition that the two sides are to discuss the annexed agreement when necessary." He continued: "In particular, the North demanded that the South define and explain in detail the term 'military bases' as mentioned in the South's proposal. In the past, the North insisted on excluding military bases from information regarding sites to be exchanged by both sides for inspection. Judging from such demands, we were under the impression that the North was looking for ways to compromise."

The biggest difference in views on mutual nuclear inspection between the North and South was whether North Korean military bases should be included in sites for inspection. It seems that the North side's demand for a detailed explanation hints that it is willing to accept some of the South side's proposals.

Dean Kong No-myong said: In response to this demand, the South side told the North that military bases mentioned in the South's proposal do not include ordinary military bases but military bases where nuclear weapons, nuclear detonation devices, and delivery means are deployed. The South's proposal is that the sides exchange information on those military bases and inspect them.

The North proposed holding a contact of chairmen of the North-South Nuclear Control Committee at the eighth North-South high-level talks scheduled to start on 15 September in Pyongyang.

BULGARIA

Kozloduy Nuclear Plant Prepares for Operation

AU0109143492 Sofia BTA in English 1414 GMT
1 Sep 92

[Text] Sofia, September 1 (BTA)—Only two of the six generating units (aggregate design capacity: of 3,760 MW.) at the Kozloduy Nuclear Power Plant's six generating units are now working: Units three and six operate at half of their capacity. They supply about 700-800 MW. of electric power. All units are being prepared for the coming autumn and winter. It depends upon the Kozloduy N-Plant whether the electricity supply will be rationed this winter again.

A programme introduced by the World Association of Nuclear Operators (WANO) is being implemented at the nuclear power plant at present, intended to upgrade the old generation units to the international nuclear safety standards. A team of experts of the International Atomic Energy Agency is expected to inspect the already loaded core and clear the restart of units two and four. After that all systems and facilities concerning nuclear safety will be put into trial operation.

The overhaul of unit one will probably continue after the beginning of 1993. Unit five has been shut down for two-month scheduled maintenance. Unit six has gone through all the trial runs on schedule and should be cleared for a 72-hour trial operation shortly. Four of Kozloduy N-Plant's six units are expected to operate at full capacity this winter.

Radioactive Fragments Found in Metal Scrap

AU0409074792 Sofia BTA in English 2013 GMT
3 Sep 92

[Text] Sofia, September 3 (BTA)—Sources of radioactive emission were discovered in a heap of metal scraps disposed by the Rozova Dolina Municipal Company of Karlovo (southern Bulgaria). These included lead containers some of which bear the internationally accepted warning sign, BTA learned from the Interior Ministry Press Office. These metal containers were brought here by Karlovo citizens to be melted under a contract concluded with the local smelting house.

The readings that were taken confirm a radioactive emission. The containers were found to be foreign-made. All necessary measures have been taken to find the remaining amount of lead that has already been melted.

Urgent measures have been taken to find the people responsible for this. The case is still under investigation, the Interior Ministry Press Office reports.

HUNGARY

Envoy to Geneva Discusses CW Ban Agreement

LD0709175992 Budapest MTI in English 1127 GMT
7 Sep 92

[Text] Geneva, September 7 (MTI)—The draft convention on the prohibition of chemical weapons, the result of over 20 years of talks, excels in importance among international disarmament agreements by banning comprehensively a category of weapons of mass destruction.

Ambassador Tibor Toth, head of the Hungarian delegation to the Geneva disarmament conference said this to MTI's correspondent about the draft convention prohibiting chemical weapons finalised last week. The document will go before the 47th UN General Assembly for passage this autumn.

"Besides a complete ban on chemical weapons, the convention provides for the destruction of existing arsenals and production bases within a certain time limit under international control.

"The complex control mechanism involved is suitable to detect activity running counter to the agreement, whereby it also acts as a deterrent.

"Wide-ranging and continuous control of the international chemical industry is also envisaged by the document. As about 10,000 companies will be affected, representatives from the chemical industry were also involved in the appropriate phase of the talks.

"Hungary has supported the ban on chemical weapons from the beginning. It declared its chemical weapon-free status back in 1988, and expressed its intention—alongside the member states of the CSCE process—to join the convention's original signatories in the Paris Charter adopted in December 1990.

"Hungary has a vested interest in the agreement, since perhaps the world's biggest arsenal is waiting to be destroyed in the region, more precisely on Russian territory.

"The provisions concerning the Executive Council, which will supervise implementation of the agreement from the political point of view, were drafted under the guidance of the Hungarian delegation," the ambassador said.

ARGENTINA

Nuclear Energy Pact With U.S. Celebrated

PY0509175092 Buenos Aires NOTICIAS
ARGENTINAS in Spanish 2136 GMT 3 Sep 92

[Text] Buenos Aires, 3 Sep (NA)—Argentina and the United States signed an agreement on the peaceful use of nuclear energy, which will allow Argentina to participate in a study on the cycle of fuels to meet civilian nuclear needs, among other things.

The agreement was signed this afternoon during a ceremony attended by Foreign Minister Guido Di Tella, U.S. Ambassador Terence Todman, National Commission for Atomic Energy [CNEA] personnel, and representatives of the Argentine [word indistinct].

According to the Foreign Ministry, the agreement "marks the initiation of a new stage in the bilateral cooperation on nuclear issues and sophisticated technology. This is the result of Argentina's new policy on sensitive technologies and non-proliferation of weapons of mass destruction. [no closing quotation mark as received]

This framework agreement includes the areas of development, design, construction, financing, maintenance, and use of nuclear reactors.

It also provides that the United States will transfer to Argentina knowledge on the use of nuclear materials for the investigation in physics, biology, medicine, agriculture, and industry.

Analyzing the decisions that resulted in the signing of this agreement in a political context, Di Tella said: "This is part of Argentina's explicit position in support of the non-proliferation of weapons of mass destruction, including the nuclear, chemical, bacteriological, and missile ones."

Addressing the ceremony, Di Tella said: "National security deteriorates and cannot be strengthened with such weapons."

This agreement, which was reached a few days after Argentina ratified the Tlatelolco Treaty, follows the nuclear accord signed with Brazil in November 1990, in which the two countries committed themselves to use nuclear energy exclusively for peaceful purposes.

The Argentine Government expects that this agreement reached with Washington will become an instrument of major significance that will allow the signing of similar treaties with Canada, France, Italy, and Japan.

Ambassador Todman, who spoke during the ceremony in the San Martin Palace, said that the agreement was possible "thanks to the important changes introduced by the administration of President Carlos Menem in the nuclear field and in other areas."

Ambassador Todman emphasized the fact that Argentina recently ratified the Tlatelolco Treaty and that it will carry out [words indistinct] high-level international safeguards and the development of controls over the export of sensitive technology.

Di Tella said that the agreement is the result of the change "in the basic vision Argentina has about its interests."

He added: "I believe this agreement allows the type of cooperation that was structurally prohibited because they were inherent to the policy of non-cooperation and the belief that technology could be developed alone in the world."

Local diplomats hope that the agreement will serve to consolidate U.S. confidence. Some of the measures already implemented by Argentina to reach that objective were the dismantling of the Condor II missile, the creation of the Argentine-Brazilian agency for the accounting and control of nuclear materials, the suspension of the sale of nuclear material to Iran by the state-owned Inavap [Applies Research Institute] enterprise, and the signing of a decree that establishes controls over the export of sensitive technology.

ST. LUCIA

CCA Urges Blocking Shipments of Nuclear Waste

FL0109173992 Bridgetown CANA in English
1407 GMT 1 Sep 92

[Text] Castries, St Lucia, Sept 1, CANA—The Caribbean Conservation Association (CCA) has called on regional governments to block any attempts by European countries to ship nuclear waste through the Caribbean Sea.

URUGUAY

President Denies Plans to Build Nuclear Plant

PY0609001292 Montevideo LA MANANA in Spanish
30 Aug 92 p 5

[Article by correspondent Gustavo Reisch]

[Excerpt] Yesterday President Luis Alberto Lacalle denied plans to build a nuclear plant in Uruguay.

Lacalle asserted: "I do not know who started this movement to oppose a nonexistent plan."

Yesterday Lacalle visited Paso de los Toros to dedicate a MEVIR [Movement for the Eradication of Unhealthy Rural Housing] housing complex, located 40 km from this town along Highway No. 5.

The president explained: "The country has a consistent nuclear policy which keeps the people informed about this science, which is new to us. For a long time Uruguay has had a nuclear reactor operating in downtown Montevideo, where engineers are being trained; the agreement we signed (with Canada) is to obtain technical cooperation for this purpose."

Regarding Congress' debate on the agreement signed with Canada to obtain cooperation in the use of nuclear energy, Lacalle said that it has been established that a nuclear plant cannot be built without a specific law authorizing it, and "I think this is right because in this way a nuclear plant cannot be built without a law authorizing it—neither here, in Paso de los Toros, nor any other place."

Lacalle added: "In any case, I do not think that in a country such as ours civilized people who yearn for progress should turn down the idea of looking into this subject."

Lacalle noted that "it is a pity we refuse to engage in something in which the most developed countries of the world—the Netherlands, France—are involved; they have nuclear plants operating right next to towns. They are a cheap and safe energy source, and I think it is a pity that we refuse to study this possibility when on the other hand we maintain that we are educated and capable people."

In any case, the chief of state noted that "it is only a matter of studies, and nobody has ordered—because I cannot do so of my own will—the building of a nuclear plant anywhere on national territory."

The president also criticized the promoters of the anti-nuclear movement in Uruguay, wondering whether "they will be so progressive as to also want to prohibit the circulation of aircraft because they may crash." [passage omitted]

INDIA

First Khokrapar Atomic Project Unit 'Critical'*BK0309161592 Delhi All India Radio Network
in English 1530 GMT 3 Sep 92*

[Text] The first unit of the Khokrapar atomic power project near Surat in Gujarat has become critical. The 220 mw pressurized heavy water reactor unit attained criticality shortly after noon today. The unit will begin commercial production after various tests in the coming few weeks. The construction work of the second unit is at an advanced stage and is expected to achieve criticality next year. Besides, four more reactors of this type are in the construction at Kaiga and Rawalbata. With the commissioning of the Khokrapar reactor unit, India has reinforced its capability to design and build pressurized heavy water reactors. The power generated from the unit will be fed to the western regional grid and shared with the states in the region.

Radioactive Leaks Detected at Bombay Atomic Plant*BK0609151292 Hong Kong AFP in English 1503 GMT
6 Sep 92*

[Text] NEW DELHI, Sept 6 (AFP)—A Bombay atomic energy plant has been leaking radioactivity, possibly for several years, a New Delhi newspaper reported Sunday.

A leak of radioactive contaminants was detected around the Bhabha Atomic Energy Centre (BARC) located some 15 kilometres (nine miles) from the center of Bombay last December, according to THE SUNDAY OBSERVER.

Traces of radioactive isotope caesium-137 were detected in soil and seawater samples near the BARC, the paper said.

The leak was first noticed December 13, 1991 when a fountain of water erupted from the lawn separating the complex from the sea.

A subsequent test of the water by experts from the Radiation Health Inspectorate showed traces of radioactivity, the report said.

The newspaper, quoting unnamed sources, called the leak "a disaster of significant magnitude," adding that "evidence also points to the possibility of the leakage having taken place for a number of years."

The newspaper report followed a BBC documentary broadcast Tuesday alleging lapses in nuclear safety procedures at various Indian atomic projects.

Commentary Defends 'Just' Nuclear Policy*BK0609115592 Delhi All India Radio General Overseas
Service in English 1010 GMT 6 Sep 92*

[Commentary by Harijai Singh, the acting editor of OBSERVER: "India For Global Nuclear Order"]

[Text] Once again, India's Prime Minister Mr. P.V. Narasimha Rao has stressed the need for an attainable agenda for a world beyond deterrence. At the 10th non-aligned summit in Jakarta, he rightly emphasized the concern of humanity on the basic issue of survival so long as

weapons of mass destruction exist on the planet. Mr. Rao was surely not indulging in rhetoric at the NAM [Non-aligned Movement] summit. He was only echoing the legitimate aspirations of the common man everywhere for peace, prosperity, and disarmament. Long before Mr. Rao, India's prime ministers in the past, including Mrs. Indira Gandhi and Rajiv Gandhi, too, had emphasized the urgency of ushering in a total global harmony through disarmament and India's basic commitment to such a futuristic order.

In fact, India's nuclear policy is both principled and just. There is no duplicity in what India said at world forums and what it pursues as a matter of policy and conviction. On the question of Nuclear Proliferation Treaty, NPT, India has stuck to its gun. It has dubbed NPT as a discriminatory treaty. Moreover, it does not provide an answer to the problem of global nuclear disarmament. At a more practical level, New Delhi has also articulated its concern over the (?new) nuclear realities around the Indian Subcontinent. As it is, China is already a nuclear-weapon power and Pakistan is all set to cross the nuclear threshold. In these circumstances, India simply cannot afford to close its nuclear option. In fact, India's nuclear policy is based on a broad political consensus at home—the consensus which has been the cornerstone of India's foreign policy for over four decades now. Indeed, no government in New Delhi can risk a departure from this set policy. Mr. Rao is, therefore, very candid and honest in spelling out India's basic stand on the NPT, while reiterating its commitment to the development of nuclear power for peaceful purposes.

True, India is under tremendous pressure from the Western powers, including the United States of America, on the signing of the NPT. Though it has made it clear that it cannot be a party to a selective nonproliferation that is tilted in favor of the nuclear haves and some defiant powers. Still, despite this discriminatory order, India has not been averse to a nuclear dialogue with the USA. It shows India's willingness to discuss all related issues provided its basic national interests are appreciated and safeguarded. Unfortunately, there has been a lot of duplicity in the stand taken by the nuclear-weapon powers. They have preferred to ignore China's role, which has helped Pakistan acquire nuclear weapons.

It is in this larger context that New Delhi has been cool toward Pakistan Prime Minister Nawaz Sharif's proposals for a five-power conference to promote a nuclear-weapon-free zone in South Asia. A nuclear freeze sounds good on paper, but its operational mechanism is fraught with security risks and credibility problems. India's position has been very firm and crystal clear. It has rightly stated that a regional approach cannot be the basis of any sensible nuclear agreement, since the question of nuclear proliferation is a global problem and has to be viewed and tackled as such. Interestingly, the most candid response to Mr. Nawaz Sharif's proposal has come from no other person than the Nepalese prime minister, Mr. Girija Prasad Koirala. He has rightly asked why only South Asia, why not the whole world as a nuclear-free zone? The logic of viewing the nuclear issue in its totality is obvious. India's policy in this context has been fair, forward-looking, and objectively and logically consistent.

IRAQ

UN Team To Check Facilities for Destroying Arms

NC0509165892 Paris AFP in English 1600 GMT
5 Sep 92

[Excerpt] Baghdad, Sept 5 (AFP) - Three U.N. chemical arms experts arrived here Saturday to determine whether Iraq had built proper facilities for the destruction of its chemical arms, British team leader Ron Manley said.

"The Iraqis have now told the United Nations that most destruction plants at al-Muthanna are completed in terms of construction," Manley told reporters. "My aim is to go and look at that, evaluate the plants, carry out some test runs," Manley added. He would report to the United Nations on his findings at the end of a one-week stay in Iraq.

The team arrived from Manama, where the head of the U.N. office Douglas Englund told AFP that the experts would evaluate an incinerator for eliminating mustard gas and another facility for neutralising nerve gas to "make sure they are properly constructed and safe."

The incinerator, which is located at al-Muthanna, 130 kilometers (80 miles) northwest of Baghdad, was Iraq's chief chemical weapons complex before the Gulf war. Chemical weapons from other sites were brought there under U.N. supervision for eventual destruction. [passage omitted]

Further Testing Required

NC0709174692 Paris AFP in English 1530 GMT
7 Sep 92

[Text] Baghdad, Sept 7 (AFP) - The facilities built by Iraq to destroy its chemical weapons are "satisfactory" but still have to be tested, the head of a U.N. inspection team said here Monday.

"The construction of the plant is complete but we have to test them, each piece" before the facilities are used, Ron Manley told AFP after a second day of work at the al-Muthanna site, 130 kilometres north (80 miles) of Baghdad.

The British chemical expert said the facilities were found to be "satisfactory so far." The design had been discussed by the two sides before Iraq built the destruction plant, he said.

The inspection team arrived in Baghdad on Saturday for a week-long mission, as part of a programme to dismantle Iraq's weapons of mass destruction under U.N. ceasefire resolutions after the Gulf war.

The head of a nuclear mission which left Iraq earlier Monday, Maurizio Zifferero, said the destruction of the country's nuclear programme was almost complete and the emphasis would switch to long-term monitoring.

IAEA Team Chief Assesses Inspection Results

Regime Refuses To Name Suppliers

NC0609194692 Paris AFP in English 1900 GMT
6 Sep 92

[Text] Baghdad, Sept 6 (AFP) - Baghdad has refused to give details on foreign suppliers of its nuclear equipment to international weapons experts, an inspection team chief said here Sunday.

Maurizio Zifferero, the leader of the 14th International Atomic Energy Agency [IAEA] team to visit Iraq, said on the last day of his mission that the refusal was "the main stumbling block" between Baghdad and the United Nations, which mandates the IAEA.

Iraq was able to build up its multi-billion dollar nuclear programme in the 1980s with the help of a network of foreign, mainly European, companies, but the 1991 Gulf war damaged installations and disrupted the programme.

U.N. ceasefire resolutions subsequently demanded that Iraq cooperate in the elimination of its weapons of mass destruction and also supply details on foreign suppliers.

The basis of a major long-term programme had been established to monitor the dismantling of Iraq's nuclear capability, Zifferero said after a meeting late Sunday with the former chief of the Iraqi atomic energy agency, Hammam 'Abd-al-Khaliq 'Abd-al-Ghafur. He did not go into details.

On the nuclear procurement programme, he regretted what he called "a political decision" taken "to refrain from disclosing the procurement."

"I still have some hope, I keep pressing," he added. After meeting Iraqi officials earlier, he said: "It is one of the remaining stumbling blocks and if they remove this, then there will be probably other things that we will be requesting, but it is the major one." The decision not to release this information had been taken at the "political" level, he explained, adding: "I am not dealing with politicians, I am dealing with technical colleagues that are under instructions themselves."

He revealed that a group of the 15-strong team went north of the capital "to take samples... of environmental stuff in the area surrounding al-Sharqat." The 15-member team from the IAEA arrived last Monday as a follow-up to a mission which destroyed installations at the nuclear sites of al-Sharqat and al-Muthanna.

Zifferero said there had been no surprises on the week-long mission, describing it as "quiet and fruitful."

It is the 43rd mission under Gulf war ceasefire resolutions calling for the elimination of Iraq's weapons of mass destruction and comes at a time of renewed tension caused by the imposition of a "no-fly" zone over the south of the country banning Iraqi aircraft.

Atomic Program 'Totally Dormant'

*NC0709180392 Paris AFP in English 1645 GMT
7 Sep 92*

[By Lachlan Carmichael]

[Text] Manama, Sept 7 (AFP) - Iraq has halted its treasured atomic bomb program, in order instead to focus on rebuilding its war-hit economy, and agrees to long-term U.N. monitoring, a top nuclear expert said Monday.

"I'm convinced the program is totally dormant," Maurizio Zifferero, head of the International Atomic Energy Agency's (IAEA) 14th mission to Iraq for the United Nations, said after arriving in the Bahraini capital from Baghdad. "They are trying to reconstruct the country. So they have other priorities."

He said the Iraqis, whose comments he takes at "face value" because there is no evidence they are lying, had repeatedly told U.N. inspectors they had totally abandoned the program in June last year.

"If this is going to be true in the future, I don't know," he said, acknowledging that Iraq still had the expertise and was holding on to its list of suppliers. In a detailed press conference, Zifferero also said he had helped Iraq as an Italian Government expert to develop a peaceful program in the 1970s, and told how he was surprised to learn it was later diverted for war purposes. He added that U.N. inspectors saw "tear drops" in Iraqi eyes when facilities were blown up because the program—which he estimates could have cost 10 billion dollars over ten years—was a source of jobs and immense pride.

Baghdad, he said, had been between one year and five years from producing an atomic weapon before the 1991 Gulf war, during which the allies mounted a "scorched-earth" policy against Iraq's nuclear potential. The war totally destroyed Iraq's uranium production, for example. "So they have no possibility of extracting uranium any more," Zifferero said. "All the uranium they've extracted is now under our (IAEA) control."

The IAEA inspection missions, which began under U.N. resolutions ending the war to force Iraq to quit Kuwait, have ensured the destruction of other capabilities, including uranium enrichment methods and research centers.

Iraq could restart its program through the universities or farming out research, but the IAEA can control that, Zifferero said.

Long-term monitoring will be "fool proof" because of IAEA visits and pictures taken from both helicopters and U-2 spy planes, and because of new technology that detects the slightest radiation in water and soil, he said. He described the sampling of the environment, which the IAEA team started on its latest mission, as a "kind of urinalysis of Iraq."

The samples are likely to prove that Western intelligence reports are wrong when they say Iraq could still have an underground nuclear reactor, Zifferero predicted.

The Iraqis "see the start of the monitoring plan as the beginning of the possibility of the lifting of the sanctions", he said. But it was not up to him to recommend that the two-year old economic sanctions should be lifted.

Resolution 715 orders Iraq to accept monitoring designed to prevent the rebuilding of its nuclear program.

After originally denying they had a nuclear program and blocking inspectors—one team in September 1991 was held in a parking lot for several days—the Iraqis have become cooperative, Zifferero said. "They have learned that it doesn't pay," he said. They realized they were just prolonging their difficulties.

The Italian expert acknowledged that Iraq's refusal to name its foreign suppliers of nuclear technology was a serious breach of U.N. resolutions, but added that the information could be found out from U.N. member states. Zifferero was leaving later Monday for Vienna, where the IAEA has its headquarters, travelling via London.

ISRAEL**Fourth Arrow Test Launch Planned in Near Future**

*TA0309044492 Jerusalem Qol Yisra'el in English
0400 GMT 3 Sep 92*

[Text] The fourth test launch of the Arrow antimissile missile will take place in the very near future. Qol Yisra'el's military reporter says that the test will determine the fate of the project. Israeli and American experts have been examining the reasons for failures in previous test launches.

Meanwhile, Israel Aircraft Industry sources denied reports that the administration in Washington has proposed that Israel scrap the Arrow project and instead join U.S. missile development programs.

SYRIA**Envoy to Geneva Urges Removing Israeli N-Arsenal**

*JN0409075092 Damascus Syrian Arab Republic Radio
Network in Arabic 0415 GMT 4 Sep 92*

[Text] Geneva—Fathi al-Masri, ambassador of the Syrian Arab Republic in Geneva, has stressed the need for removing all weapons of mass destruction in the Middle East, including Israel's nuclear arsenal. Addressing the UN disarmament conference, al-Masri said that the UN General Assembly is a suitable platform for linking chemical and nuclear weapons.

The UN-sponsored disarmament conference yesterday agreed to forward a treaty banning chemical weapons to the UN General Assembly for ratification.

Defense Ministers Discuss CIS Nuclear Strategy

LD0309164892 Moscow ITAR-TASS in English
1524 GMT 3 Sep 92

[By ITAR-TASS correspondent Andrey Naryshkin]

[Text] Moscow September 3 TASS—Nuclear strategy of the Commonwealth of Independent States (CIS) was discussed at a meeting of the Council of Defence Ministers of the CIS member-countries on Thursday. "I believe we shall find mutually-acceptable solutions on the basis of the Alma-Ata agreements", Aleksandr Kotenkov, chief of the state-legal agency of the Russian president, told ITAR-TASS. He favoured the preservation of unified control and unified management of nuclear forces within the framework of the Supreme Command of the Joint Armed Forces of the CIS.

Non-nuclear status of Ukraine, Belarus and Kazakhstan does not permit them to have strategic nuclear forces, Kotenkov said. These should be Russian forces, since Russia bears the responsibility to the world community for their safety. While these forces are kept in territories of other states, functions for their management and operation should be discharged with the participation of the Supreme Command of the Joint Armed Forces of the CIS, Kotenkov said.

Under the Alma-Ata agreement, the president of the Russian Federation has the right to make decisions on the use of nuclear weapons on coordination with heads of other countries of the CIS in whose territories nuclear forces are stationed, and for which commander-in-chief of the Joint Armed Forces of the CIS, Marshal of the Airforce Yevgeniy Shaposhnikov, is directly responsible. Kotenkov believes that an intermediate variant should now be found. This approach will not require substantial modification of the existing agreements, although some adjustment will be needed, he said.

Lieutenant-General Valeriy Manilov, press secretary of the commander-in-chief of the Joint Armed Forces of the CIS, told ITAR-TASS that the Council of Defence Ministers will try to find a compromise on strategic nuclear forces that would suit all countries of the Commonwealth, both signatories to the treaty on collective security and those who do not participate in it. "We have learned to listen to each other and look for mutually acceptable solutions", Manilov said.

Former Soviet Republics Coordinate on N-Weapons

OW0109144992 Moscow INTERFAX in English
1418 GMT 01 Sep 92

[Report by diplomatic correspondent A. Borodin and others—transmitted via KYODO]

[Text] The special commission on compliance with the treaty on cuts in strategic offensive weapons signed between the USSR and the USA in July, 1991, held a session in Kiev. According to the local press, its members managed to settle most of their differences.

The session involved representatives of the USA and of the 4 CIS states which inherited nuclear weapons from the former USSR: Russia, Byelarus, Ukraine and Kazakhstan.

According to observers, the main problem that remains to be solved is the sources of financing the process of dismantling nuclear weaponry and its subsequent scrapping.

CIS Deputy Commander on Strategic Rocket Forces

PM0409103192 Moscow KRASNAYA ZVEZDA
in Russian 4 Sep 92 pp 1, 2

[Interview with Colonel General Aleksandr Aleksandrovich Ryazhskikh, deputy commander in chief of the Strategic Rocket Forces for armaments, by Major Aleksandr Dolinin under the rubric "Interlocutor of the Day"; place and date not given: "Russia Needs Nuclear Missile Weapons and Can Perfectly Well Afford Them"—first paragraph is introduction]

[Text] He was born in 1931. He is deputy commander in chief of the Strategic Rocket Forces for armaments and a member of the Strategic Rocket Forces Military Council. He is a doctor of military sciences and candidate of technical sciences. He took part in the development of the first Soviet rockets. He is an experimental engineer. He took part in the launch of the first artificial Earth satellite and of the lunar probes. He worked for many years with S.P. Korolev, V.N. Chelomey, N.A. Pilyugin, M.K. Yangel, and V.P. Barmin.

[Dolinin] It has now been proved that it is impossible in the modern world to resolve the problems of a state's national security without an army with powerful weapons. Therefore priority attention is being paid to strategic forces groupings and to their foundation—the Strategic Rocket Forces—in forming the Russian Army. But what is the technical condition of the forces today? Given the country's present economic position, have they not lost their former might, and will their continued maintenance and development not be a heavy burden on the people?

[Ryazhskikh] I should stress straightaway that, compared with other branches of the Armed Forces, the Rocket Forces are not only the smallest in terms of number of personnel but also, surprising though it may seem, the cheapest. Few people know that only 7-9 percent of the funds appropriated for defense are earmarked for them.

The initial expenditure on setting up missile complexes is considerable, of course. But the missile men are very careful with their equipment and arms. Largely thanks to this, the operational life of complexes is considerably extended. Moreover, the maintenance of missiles in a combat-ready state is an automatic process. All this to a great extent recoups the expenditure.

[Dolinin] In that case, Aleksandr Aleksandrovich, it is reasonable to ask whether the Strategic Rocket Forces can have a high level of technical equipment when the funds allocated to them are so modest?

[Ryazhskikh] I can say without exaggeration: There were practically no tasks beyond the capability of our missile industry. The most complex models of equipment were developed and placed in series production on time, as a rule.

In terms of basic combat and operational performance characteristics, our arms are not inferior to the corresponding foreign models. Some indicators are higher

abroad, and some are higher here. In general, there is in practice balance. Incidentally, that was also the conclusion drawn by Russian President B.N. Yeltsin after his recent visit to a missile test range in Mirnyy.

I will also cite some illustrations of the quality and reliability of our missile equipment. Take the RS-10 (SS-11) missile complex, which is to be replaced in the very near future. It has been on combat alert duty for around two and a half times its originally prescribed lifetime, but it still retains its combat and operational performance characteristics.

As is well known, 72 RSD-10 (SS-20) missiles were destroyed by the launch method during implementation of the Treaty on the Elimination of Intermediate- and Shorter-Range Missiles. They all were launched precisely on time and their nose sections hit the calculated target points.

That is not all. In several dozen planned launches of the latest-generation RS-12M (SS-25) missiles there have been no deviations at all in prelaunch preparations or in flight. I think this is a convincing testimonial to the quality and reliability of our missiles and in general to the standard of the missile industry.

[Dolinin] But, Aleksandr Aleksandrovich, doubts are arising whether the missile industry will stop in its development given today's "indiscriminate" conversion?

[Ryazhskikh] That danger does exist. Processes that may get out of control have already begun at a number of plans and design bureaus. The exodus of skilled personnel has increased sevenfold. It is the most highly skilled professionals who are leaving.

The growth rate in the level of technical equipment at enterprises has fallen by 20-30 percent. Given this dangerous trend, our plants will be unable to take on board new technological processes in arms and equipment production.

Coproduction arrangements are being wrecked. Taking Ukrainian plants into account, the loss of suppliers is reaching 40 percent or even more. Design bureaus and research institutes do not have the funds to develop experimental facilities.

[Dolinin] So unless appropriate measures are taken, the missile industry's potential may fall below the permissible "danger mark"? What will be the quality of weaponry in 10 or 15 years' time, say?

[Ryazhskikh] Each new generation of weapons must have approximately a 50-100 percent improvement in combat and operational performance characteristics. It is impossible to achieve this without scientific and technical groundwork, a high level of technical equipment at enterprises, and modern experimental and research facilities. We are already beginning to lag behind in solving many problems.

[Dolinin] What is the solution?

[Ryazhskikh] Within the limits of my competence, I can express my personal opinion on how to alleviate the negative trends in military industry. Clearly, we in the Armed Forces must first of all ensure that the defense industry has

stable, guaranteed orders. Plant directors and chief designers must be confident of military customers as reliable partners capable of financing the development and creation of the armaments the state needs.

It is important to preserve the backbone of state defense enterprises, to give them economic incentives, and to lessen the pressure of high taxation. At all costs we must preserve our intellectual potential, even if it means state subsidies.

Conversion, which was planned on the scale of a state that no longer exists, must be geared to Russia and must have a clear, scientifically substantiated character.

The forward planning of experimental design work and series production must be improved. It takes between five and seven years to create a modern missile complex, or even longer if you count the groundwork, so well thought-out long-term planning is essential. U.S. experience shows that over there, after they have drawn up a list of the most important long-term developments, they bolster them with dozens of projects, set up long-term cooperation, and systematically resolve the set tasks.

[Dolinin] In the hope that one day at long last everything will take shape, how do you see the purpose of Russia's nuclear missile shield?

[Ryazhskikh] Nuclear missile weapons, and we should not close our eyes to this, are a really reliable means of ensuring global stability in the foreseeable future. Not only political and military stability, but also economic stability. Irrespective of whether the states that possess them are in opposition in any sphere.

Though the army is commonly seen as guns and tanks, the basis of this army called upon to safeguard the right of Russia's peoples always to control their present and future themselves is in fact military-political means of ensuring global stability. It is those means that the Strategic Rocket Forces has. The whole point of the existence of the Rocket Forces lies in not using them, in preventing global conflict under any circumstances.

Aside from their exceptional, unique importance for Russia's guaranteed sovereignty and defense structure, nuclear missile weapons are also necessary because they are weapons that we can perfectly well afford. If you make an integrated assessment on the basis of the "defense effect-cost" criterion taking the costs of creating them into account, they are the most economical and cheapest weapons. It is important to have a level of them that is not inferior to foreign models.

U.S. Accuses Russia of Germ Warfare Production
OW3108225292 Beijing XINHUA in English
2206 GMT 31 Aug 92

[Text] Washington, August 31 (XINHUA)—The U.S. State Department today confirmed a press report that the Russian Government has failed to provide evidence that it has shut down germ warfare production program.

"The current overall status of the illegal offensive weapons program remains unclear," State Department Spokesman Richard Boucher said.

"To date, we do not have the kind of concrete actions that would indicate that the Russian Government has effectively terminated the illegal Soviet offensive biological weapons program," he said.

Boucher's remarks came following a WASHINGTON POST report that U.S. and British officials are worried that Russia has yet to meet repeated U.S. and British requests for evidence that the germ weapons program has been terminated and for a detailed declaration by Russia of the program's past scope.

THE POST said that during his meeting with U.S. President George Bush, Russian President Boris Yeltsin acknowledged that the former Soviet Union maintained a secret germ weapons program in violation of an 1972 International Biological and Toxin Weapons Convention.

Yeltsin issued a decree in April to halt the program involving the development of bombs and warheads capable of carrying anthrax, tularemia and Q fever biological warfare agents.

The U.S. intelligence community has determined since April that the program has at least been scaled back, but cannot verify that it has been eliminated, THE POST said.

The revelation of Russia's non-compliance with the U.S. demand that it stop developing biological weapons program may affect the Western aid for the country because under a 1991 U.S. law, at least 500 million in U.S. economic aid to Russia and other former Soviet republics is contingent on Moscow's adherence to the 1972 treaty.

"Our objective is that Russia take concrete steps to demonstrate that the former Soviet offensive biological weapons program has been terminated," Boucher said.

Russia, U.S. Reach Agreement on Uranium

U.S. To Purchase for Peaceful Use

*PM0209145192 Moscow IZVESTIYA in Russian
2 Sep 92 Morning Edition p 5*

[Report by Aleksey Portanskiy: "United States Prepared To Buy Nuclear Bomb Uranium From Russia for Its Nuclear Power Stations"]

[Text] On Monday U.S. President G. Bush announced that agreement had been reached in principle with Russia that the uranium from the nuclear armaments that are being destroyed can only be used for peaceful purposes.

As is known, this year Russia and the United States agreed on a substantial reduction of their nuclear arsenals. But the agreements that were reached can be deemed effective only if the destruction and reprocessing of all the components of the nuclear weapons, including the fissile material, are guaranteed.

A written statement by the U.S. President, put out by the White House, says that the sides "have agreed to devise

measures to fully guarantee nonproliferation, physical security, accounting, and monitoring, and also observance of ecological standards" in respect of enriched uranium.

According to the working document initialed by both sides last week, the United States and Russia plan to conclude a contract within a year for the U.S. Energy Department to purchase enriched uranium from Russian nuclear armaments, which, after reprocessing, will be used in U.S. civil nuclear reactors. The document also envisages cooperation between the two sides in enhancing nuclear reactor safety in Russia. Part of the money Russia makes from the sale of the uranium will be spent on this. By and large, the profit from future deals should assist the economic reforms in Russia, President Bush's statement also says.

The agreement that has been reached provides a working framework; more work has to be done on it to prepare it for official signing, Konstantin Kuranov, adviser to the Russian Federation atomic energy minister, said in conversation with me. It used to take years to prepare such agreements, but now the demand for currency and the desire to strengthen our positions in the U.S. market call for quite a different timeframe.

As far as Russia is concerned the aforementioned agreement with the Americans will have not only the obvious political and military significance. As is known, despite our enormous natural stocks of uranium, Russia's quota on the world uranium market is only 5 percent. The agreement that is being devised will enable Russia to dispose of uranium in the U.S. market outside of its existing quota and will not affect our relations with other partners in the world market.

We have inherited from the overblown military potential of the former Soviet Union significant natural uranium enrichment capacities, which constitute 45 percent of world capacity. Moreover, the technical standard of our enterprises is much higher than the American. According to authoritative estimates, we are 10 years ahead. This means that U.S. industry may not be able to handle the reprocessing of highly enriched weapons-grade uranium into fuel for civilian needs, where the degree of enrichment is only a fraction of that. The future agreement offers the possibility of the considerable use of our capacities for the manufacture of slightly enriched uranium, which will then be exported to the United States.

The U.S. side estimates that the future contract will envisage the purchase of around 500 tonnes of uranium. In the first five years approximately 10 tonnes of enriched uranium are to be reprocessed annually into slightly enriched uranium; this figure could rise to 30 tonnes per year.

To Cooperate With Reprocessing

*PM0409114592 Moscow KRASNAYA ZVEZDA
in Russian 3 Sep 92 p 3*

[Report by Manki Ponomarev: "Uranium Becomes Subject of Cooperation"]

[Text] Washington and Moscow have reached an agreement on cooperation in reprocessing and utilizing highly enriched

uranium being released as a result of the dismantling of Russian nuclear weapons. This agreement was initialed on behalf of the United States by Major General William Burns, retired, and on Russia's behalf by Nikolay Yegorov, Russian Federation deputy minister for atomic energy.

The agreement is of fundamental significance. First, it proceeds from the premise that henceforth the reduction of nuclear arms will not amount just to reducing the number of carriers and delivery vehicles but will lead to the elimination of charges. Second, ways have been outlined to process nuclear explosives into fuel for nuclear electric power stations. Third, Russia gains an opportunity to enter the U.S. market with its own uranium—both highly enriched uranium (at first something of the order of 10 tonnes a year, and in five years' time even 30 tonnes) and already reprocessed uranium.

Highly enriched (weapons-grade) uranium will be reprocessed into slightly enriched uranium (fuel for nuclear electric power stations) both in the most sophisticated Russian enterprises and in U.S. ones.

The sides have agreed jointly to draw up measures to fully ensure the nonproliferation of enriched uranium, its physical safety, and its accounting and control, as well as compliance with the demands of ecology.

Russian, U.S. Nuclear Scientists Establish Ties

*LD0209205692 Moscow ITAR-TASS in English
1802 GMT 2 Sep 92*

[By ITAR-TASS correspondent Yuriy Solyanikov]

[Text] Obninsk September 2 TASS—Oakridge, Tennessee is known worldwide for its part in developing the United States' first atomic bomb. But far from many people know the city was founded in 1942 for the purpose.

Its opposite number in Russia, the city of Obninsk, is younger. The city in which the world's first nuclear power station was built dates from 1956.

Close ties between nuclear physicists of the two nuclear research centres—the Physical Energy Institute in Obninsk and the U.S. National Laboratory in Oakridge—are targeted by a provision of the agreement on the establishment of sister relations between the two cities, signed here today.

The pooling of efforts of researchers working in the field of military and peaceful uses of nuclear power is the sign of the times characterized by a higher degree of trust between the two great nations.

Russia, PRC Military Cooperation Increasing

*LD0109184792 Moscow Teleradiokompaniya
Ostankino Television First Program Network
in Russian 0800 GMT 1 Sep 92*

[Video report on a meeting between PRC Defense Minister Qin Jiwei and Acting Russian Prime Minister Yegor Gaydar, including recorded remarks by Gaydar; place and date not given—from the "Novosti" newscast]

[Excerpt] [Announcer] The official visit of Colonel General Qin Jiwei, PRC defense minister, to our country has ended.

Mutual desire to develop relations was expressed during the meeting with Yegor Gaydar. Moreover, Yegor Gaydar stressed that overcoming in full those elements of confrontation which used to exist between our countries has strengthened the geopolitical positions of Russia and China.

Touching on military and technical cooperation, which is rapidly growing, he noted mutual interest in this topic. Supplies to China allow Russia to make use of the capacities of our defense industry. [passage omitted]

Russian Military 'Threat' Eyed By Japanese Defense

*LD0409173792 Moscow ITAR-TASS in English
1357 GMT 4 Sep 92*

[By ITAR-TASS correspondent Vladimir Solnetsev]

[Text] Tokyo September 4 TASS—Over several years Japan has not been viewing Russia as a country posing potential threat. It considers the huge Russian military power in the Far East to be a source of regional instability, however, First Deputy Head of the Japanese Defence Agency Akira Hiioshi, who has never been interviewed by Russians, told ITAR-TASS.

Hiioshi admitted the quantity reductions of the armed forces of the former Soviet Union have been underway in the Far East and the rates of their modernization have been slowed down over the past few years.

The already accumulated huge modernized military potential remains, and Japan believes this military power exceeds the boundaries of the one necessary to protect the Russian Far East, however, said the Japanese official.

A significant factor, in his opinion, is the vagueness of the fate of the Commonwealth, whose member is Russia, as well as the unsettled issue on the division of the CIS allied armed forces and national armies of the CIS member-states, an example of which is the Black Sea Fleet issue. Under these unclear and uncertain conditions, the fact that the former Soviet Union and Russia have a large military power, including nuclear arms, is a source of fears and worry, noted Hiioshi.

He pointed out the big significance of the beginning dialogue between Russia and Japan on ensuring security.

Hiioshi described as very substantial the first Russian Japanese consultations on political planning in June in Moscow, in which military from the two countries participated together with the diplomats.

Further consultations of the kind and other contacts between the two countries' representatives involved in defence issues will contribute to the consolidation of confidence, he said. Political issues must be settled first.

Asked about the attitude of the Japanese Defence Agency towards the reduction of the Russian forces' strength in the Southern Kurils and prospects for their complete withdrawal, Hiioshi voiced an opinion they are not very important from the military point of view. He said they consider

it significant to hold negotiations proceeding from a prerequisite that the northern territories are a primordial territory of Japan, and in this connection, it should be decided in accordance with the lawfulness and justice how to withdraw the Russian troops from the territories and return them to Japan.

Hiioshi mentioned the activities of China as a factor of instability in the Asian-Pacific region. In his words, the Beijing course towards the purchase of armaments from the former Soviet Union and a tendency towards the expansion of the Chinese navy sphere of activities cannot be ignored.

Japan considers a major instability factor the North Korean building of nuclear facilities and the increase of surface-to-surface missile range as a result of which Japan finds itself within reach. He said Japan cannot help being concerned over this.

Russia, Iran Cooperate on Peaceful Nuclear Uses

*LD0709135192 Moscow ITAR-TASS in English
1315 GMT 7 Sep 92*

[By ITAR-TASS correspondent Lyubov Dunayeva]

[Text] Moscow September 7 TASS—Iran and Russia intend to sign a joint declaration regarding cooperation in the peaceful use of nuclear energy and the construction of a nuclear power plant in Iran. The signing ceremony of this document will be held on the occasion of the opening of the International Atomic Energy Agency's (IAEA) general conference in Geneva on September 21, the head of the Atomic Energy Ministry's Information Department, Georgiy Kurov, told ITAR-TASS.

In particular, it concerns cooperation of the two countries in fundamental and applied science in the sphere of peaceful use of atomic energy, in joint research, designing and construction of the nuclear power plant in Iran, training of personnel, and also in the industrial production of components and materials that are necessary for use in nuclear reactors and their fuel cycles.

Nuclear and non-nuclear material and equipment will not be used for military purposes, that is for the production of nuclear explosive devices, the document emphasises. Moreover, they will be kept under "strict control of the idea during the entire period of their actual use," and they will also be ensured through measures of physical safety on a level not lower than recommended by the IAEA.

It is necessary to note that Russia and Iran are signatories to nuclear non-proliferation treaty. Iran had signed an agreement with the IAEA in 1973 about guarantees regarding the treaty.

Russian-Cuban Nuclear Plant Construction Halted

*LD0609093192 Moscow ITAR-TASS in English
0853 GMT 6 Sep 92*

[By ITAR-TASS correspondent Sergey Sereda]

[Text] Havana September 6 TASS—Cuban leader Fidel Castro announced the suspension of the construction of the Juragua nuclear power station. Speaking in Cienfuegos

on Friday at a rally marking a regular anniversary of the assault of the Moncada barracks and of the uprising of the navymen of the city against the Batista regime, Fidel Castro said the Cuban Government had to suspend the construction of this important economic facility because "there is no alternative".

By now 1,100 million dollars have been invested in the construction of the Juragua nuclear power station. The first power-generating unit is 90 percent ready, and a multitude of auxiliary facilities have been built. Unfortunately, the Russian Government changed the original terms for the station's construction, the Cuban leader said.

The Russian delegation, who visited Cuba in April this year, notified us that prior to the finalisation of the station's construction, the Cuban side should pay 200 million dollars to various organisations of Russia and spend another 200 million dollars on the purchase of equipment in a third country, Castro added.

The Cuban economy, which operates under conditions of "a special peacetime period", cannot afford to go ahead with the construction of the nuclear-power station. Therefore we suggested to the Russian Government that the construction of the facility be suspended, Castro said.

Russian Physicists Working in Latin America

*924P0173A Moscow NOVOYE VREMYA in Russian
No 33, Aug 92 pp 26-27*

[Report by Yuriy Kudimov: "Russian Brains Are Honored Here. There Is No Money for Science in Russia. But There Is in Latin America"]

[Text] Mexico—The National Independent University of Mexico [UNAM] Institute of Physics is perhaps not so well known among professionals as, say the Kurchatov Institute or the Massachusetts Institute of Technology (in the United States). Although the experts do claim that the work of the theoreticians here in the field of nuclear fusion has been read with interest by Americans and Russians ever since the time of the race to invent the atom bomb.

It seems that I believe this. At least, for some reason it is precisely here that scientists from the United States, Canada, Western Europe, Japan, and also Russia, who are not unknown in the world of nuclear physicists, are working. Many came here more than 10 years ago, and they are not about to leave. And it is not the pay that keeps them here. (The Mexican salary of a senior official in the scientific hierarchy is commensurate with the salary of a physicist just starting in the United States). The scientists are attracted by the working conditions created by the Mexicans, and in particular by the creative freedom.

However, 30-year-old Ayrat Sultanayev, who in the recent past was a Russian scientist, is also happy with the salary. He came to Mexico less than a year ago from Leningrad, immediately after he had defended his candidate's dissertation on quantum electrodynamics. He had 20 dollars in his pocket for his wife and himself—a generous gift from a kind foreigner. All of Sultanayev's capital was used up to travel in a taxi from the airport to the home of Russian friends—a

young couple, postgraduates from Moscow working at the Independent University of Mexico.

The next day Ayrat was already at the university. He took with him a copy of his own scientific publications, translations of which he found without difficulty in the university library, and he was offered a job. He was offered three positions at the same time. He chose the physics institute, since there they took it upon themselves to offer him legal work. For he had come to Mexico on a tourist visa.

Now Ayrat and Anastasia are moving into what is by Soviet standards a decent apartment, not far from the university. About one-fourth of Ayrat's salary goes for this, which is more than R1,500 a month. Naturally, they had not had their own apartment in Leningrad, just as they had had no registration—something that is apparently an attribute of only one country in the world. While Ayrat was studying at the university, and later as a postgraduate, he had had a room in a hostel.

Essentially, when he graduated the young physicist had nothing but the position of an official person of no fixed address and a penurious salary, and in the former USSR he was offered nothing. Ayrat himself came from Ufa, where alas! no work in his specialty can be found. His parents are pensioners and were hardly in a position to help him. Anastasia also found herself without a home. Her parents, who had lived all their lives in Estonia, have now been forced to emigrate. They were unable to obtain citizenship in the new Baltic republic, because they are not Estonians by nationality.

A Bottle of Vodka for an Experiment

Essentially, if Ayrat had not left and had agreed to work in St. Petersburg, he would by now not have been in the most hopeless of conditions. In contrast to his experimental colleagues, Sultanayev is a theoretician. His work place and equipment are a table, an exercise book, and a pencil. Well, and the library.

The experimental people, however, need laboratories and instruments, and sometimes expensive materials. There is simply no money for this. In order to obtain the simplest metal set square, for example, to conduct experiments with semiconductors, the fitter in the metallurgy workshop would have to have his bottle. And relations with the assistant manager would have to be at least as good as his relations with relatives, Ayrat recalls of his colleagues with a groan.

Those taking part in our conversation, Vladimir Kostoglodov, Aleksey Gorbатов, and Yelena Nikiforova—scientists from the Moscow Institute of Earth Physics, now working in Mexico—nod their heads in agreement. According to them, the main task for their Moscow director was to try to get money out of the bank for the wages of the associates. There was no talk of experiments.

Their specialty is seismology. As is known, earthquakes are perhaps one of the few calamities that do not yet threaten Moscow. The experimental base for the physicists was located in Central Asia. Now, in their words, it is abroad just as much as Mexico is. The ambitions of the Central

Asian scientists has been greater than the desire of the politicians to form a common economic space called the CIS.

Under these conditions, the Russian seismologists faced a dilemma: Leave science or look for work abroad. In Mexico they found a use for their knowledge. The Russian school of seismology is a world leader. With the help of our scientists the Mexicans discovered two potentially very dangerous sites. Steps are now being taken to prevent the tragic consequences of possible future jolts.

According to Vladimir Kostoglodov, a minimum of five junior scientists from his Moscow laboratory have signed contracts and gone to the United States, England, and the FRG. "For the older people it is more complicated," Vladimir thinks. "They have deeper roots in the motherland, and they do not have the head for it." At 45, he categorized himself as older generation. At the end of his contract he is going back to Moscow.

Apparently, in the West they are much more concerned than in Russia about the Soviet brain drain. And not without cause: Everyone knows that the flower of Soviet science, particularly in nuclear physics, worked in defense. Under conditions in which an expansion of the international "nuclear club" is a reality, Western governments have sounded the alarm.

Although in the opinion of Ayrat Sultanayev, the entire campaign is in many ways artificial. In order to develop nuclear weapons, it is now not so much the heads of scientists that are needed, but rather a technological base, which is inconceivable without a powerful economy. Rather, it is that the West is fascinated by the throw-away price at which our "brains" are being sold.

Thus, according to a BUSINESS WEEK report, one private American company that fulfills orders for the U.S. Department of Energy has concluded a contract with the Kurchatov Institute whereby the flagship of Soviet nuclear physics will conduct experiments in the field of hot fusion for only \$90,000 a year. The Americans still cannot believe their luck: The same experiments in the United States would cost them \$110 million a year. But the people at Kurchatov are satisfied. This contract, like a number of others concluded with the Americans, is saving many future experiments. The freeing of prices for energy and the inability of the Russian Government to fund the institute's experimental activity have created a real threat to its further existence.

From 'Third World' to 'First'

We also talked with Sultanayev about how he feels in the company of Harvard and Oxford graduates. "I do not feel that I am at a loss," Ayrat replied quietly. "All my projects have been accepted by the scientific council at the institute and won in competition with at least five rivals. The level of our science, at least theoretical science, is as high as in the West."

Why is the level of science in Mexico, which is listed as a Third World country, as high as the level of science in the

"First World"? Those with whom I conversed at the institute of physics unanimously think that it is simply that the government of this country is not indifferent to its future. Thanks to consistent economic reforms, Mexico is coming consistently nearer to the club of the world's wealthy. Fundamental scientific research is essential to it now so that it will not have to pay a high price later for having to catch up with progress.

This is precisely why at the country's scientific centers they are debating with interest the possibility of buying "brains" from abroad, in particular from the CIS. The good thing is that Soviet heads, which are just as good as Western heads, cost much less. Moreover, it was the opinion of one of those with whom I spoke—a Russian scientist—that for political reasons the Mexicans did not want to be oriented on the United States in this matter.

NOVOYE VREMYA had had access to a UNAM internal document from which it is clear that the Government of Mexico "has great interest" in the idea of inviting scientists from the former socialist bloc to work in the country. At the university they already have a certain list of scientists from the CIS and the other former socialist countries (with their names, home addresses, and a short resume of their scientific work) who might agree to the terms proposed by the Mexicans. It is suggested that the country's government is turning a blind eye to the fact that Soviet "heads" are coming here, so to speak, on a semiofficial basis. As the case of A. Sultanayev showed, the issue of identity cards is also not a problem.

However, Mexico would greet with open arms Russian scientists coming here on a totally official basis. I was informed by a government organization—the National Council for Science and Technology—that here they are extremely interested in inviting Russian experts to do fundamental research in geophysics, astrophysics, and other fields. For this it is necessary for those who go to the Mexican Embassy in Moscow, for example, to communicate with Mexican scientists and offer their services. If the decision is positive, the national council pays for the travel costs of the scientist and his family, provides housing, and resolves visa questions, and so forth. In addition, the government is considering the possibility of sending a board of experts to choose those who want to go to work in Mexico.

In some other Latin American countries, however, they are eyeing the CIS with hope as a possible source not only of scientific personnel, but also simply a skilled work force. In one of the latest issues of the Colombian journal LATINOAMERICA INTERNACIONAL it is stated openly that scientists and skilled workers from the CIS, where one-fourth of the world's leading "brains" are located, could play an important role in developing new technologies in countries on the continent.

According to a statement by that country's foreign minister, Guido Di Tella, Argentina could accept about 100 inhabitants of the former East bloc this year alone. True, the Argentinians would like for each family going there to have a minimum of \$20,000.

Young men from the Moscow Institute of Earth Physics firmly intend to return to their motherland in time. In their words, they will be unable to live abroad because of nostalgia.

Ayrat Sultanayev is still very far from giving in to sentiment. "I have no time to miss the birch trees," he says. "I am working more than 12 hours a day. Neither can I yearn for my own place and home. They are simply not there."

In his words, the motherland is his mother, from whom he would in any event live far. But by living abroad, he may nevertheless be able to help her.

Sultanayev admitted that many of his friends and colleagues in St. Petersburg are impatiently waiting for him to find work for them in Mexico.

Russian Nuclear Submarine Launched in Severodvinsk

LD0509111192 Moscow Radio Rossii Network in Russian 1900 GMT 4 Sep 92

[Text] A new nuclear submarine, named Kasatka [killer whale], has been launched in Severodvinsk in Arkhangelsk oblast. It will be included in Russia's Navy, ITAR-TASS reports.

Russian Capital Plagued By Chemical 'Time Bomb'

PM2408155292 Moscow IZVESTIYA in Russian 22 Aug 92 Morning Edition p 8

[Report by Yevgeniy Solomenko: "Chemical 'Time Bomb' Concealed Near St. Petersburg"]

[Text] St. Petersburg—Quite close to St. Petersburg, a mighty chemical "time bomb" is stored. Hundreds of thousands of highly toxic waste products containing arsenic, fluorine, mercury, lead, hydrocyanic acid, and phosphorus—that is the "arsenal" of the "Krasnyy Bor" yard, which is only half an hour's journey from the oblast center.

This yard, designed to receive and render harmless industrial chemical waste, was opened in 1970 as an experiment, intended to last only three years. But it is still being used to this day. Although its potential has been completely exhausted. Thus not far from St. Petersburg, a city of 5 million, and very close to the city of Kolpino and the settlement of Krasnyy Bor, there is a dangerous source of chemical pollution—50 hectares packed with the toxic "fruits" of galvanization and organic industries and petroleum refining.

The storage of these unwanted toxic substances violates numerous regulations: Health norms are stretched to breaking point. According to a government resolution, the yard is supposed to serve only enterprises in St. Petersburg and Leningrad Oblast. But instead, for some reason, it also takes waste from other states. In particular Ukraine and the Baltic.

Experts assess the situation as alarming. They estimate that, using traditional technologies, it will take between five and seven years to render harmless the toxic waste already

accumulated here. So for a minimum of five years St. Petersburg and the oblast will live beneath a sword of Damocles, in the shape of chemical pollution.

This already complex problem is further exacerbated by the fact that enterprises in St. Petersburg and the oblast have nowhere else to take their waste. So the yard cannot go on operating any longer, but, at the same time, it cannot be closed. The public and the press, the Green party, professional ecologists, and deputies have been arguing over "Krasnyy Bor" for a long time. But nothing has yet changed radically. At least, not for the better. The Petersburg chekists have had occasion to intervene. They were given the duty of monitoring situations which could develop into incidents, and informing representatives of the authorities about them.

The other day the Russian Security Ministry's St. Petersburg directorate submitted to the St. Petersburg and Leningrad Oblast leadership its official findings on the "Krasnyy Bor" problem. The document stresses: "In the opinion of specialists, the 'Krasnyy Bor' yard is at present a major source of dangerous pollution of ground and surface water and the atmosphere, and there is therefore no room for delay in resolving the question of building a modern plant for the reprocessing of industrial toxic waste in the region."

The only remaining question is: How can the "fathers" of the city and oblast fail to see for themselves the impending disaster, and if they do see it, why are they doing nothing?

Russia Monitors Bacteriological Weapons Ban

*LD0209210592 Moscow ITAR-TASS in English
2026 GMT 2 Sep 92*

[By ITAR-TASS diplomatic correspondent Igor Shubin]

[Text] Moscow September 3 TASS—Russia is abiding by a constructive position on the problems of monitoring the implementation of the 1972 agreement banning bacteriological weapons, a Russian Foreign Ministry official told TASS on Wednesday, commenting on reports published by the American press alleging that the Russian Government was encountering opposition by the military in winding up bacteriological weapons programmes.

The Russian Foreign Ministry proceeds from the fact that after the Russian president signed a decree in April 1992 banning all activities connected with bacteriological weapons, no such activities are taking place in Russia, which was confirmed by the corresponding authorities, the official said.

In July, 1992, the Russian side officially informed the United Nations Organisation about the work in this field carried out by the former Soviet Union.

The document, in particular, mentioned the incidents of violation of some provisions of above-mentioned agreements in the former Soviet Union.

Some officials from the United States of America and other Western countries keep on saying that Russia is not

observing its commitments to stop developing bacteriological weapons, however. Their allegations are based on the evidence of one of the defectors, and they refuse to verify the information.

To dispel these doubts, Russia has twice proposed to the United States to set up a joint commission of experts which could check the information available at both sides on bacteriological weapons research. Nevertheless, Washington has not responded to the initiative, the Russian diplomat said.

In this case the silence of the American side can be regarded as a manifestation of insincerity in the solution of such problems, important for the whole of mankind, as control over the termination of work on bacteriological weapons.

Russian Military Considers Mine for Disposal Site

*MK0709113992 Moscow ROSSIYA in Russian
No. 36 2-8 Sep 92 p 2*

[Report by Andrey Pavlov under the "INFO-'ROSSIYA'" news roundup: "Burial Rumors"]

[Text] After its imminent closure, the most northern of the Vorkuta mines—"Khalmer-Yu"—could possibly be used for the burial of "certain substances." This vague statement was made in a speech at the "Vorkutaugol" Association Council of Directors by its technical director A. Gorenok. Obtaining the details of this information turned out to be a difficult matter. All that could be ascertained was that a place for burying substances of an unspecified nature is being sought by military specialists, whose specialty is also being kept secret. According to "Vorkutaugol" representatives, the idea is technically unfeasible because of the presence of water-bearing strata [vodonosniye gorizonty] and that it was floated more as a "trial balloon"—but who will react to it, and how?

Russians Deny Chemical Weapons Stored in Sukhumi

*LD0209154692 Moscow Mayak Radio Network
in Russian 1451 GMT 2 Sep 92*

[Text] It has already been reported that during the military activities in Georgia, an Army laboratory in Sukhumi was repeatedly shelled. Some foreign news media have reported that there are allegedly reserves of chemical combat substances in the laboratory and that shells falling on the laboratory could cause an ecological catastrophe. The press center of the Russian Defense Ministry today refuted this information. The laboratory is a seismic one. It does not pose any danger to the environment or people.

Commentary on Russian Position on CW Disarmament

*LD0509181892 Moscow Radio Moscow World Service
in English 1110 GMT 4 Sep 92*

[Commentary by Valeriy Chebotaryev]

[Excerpts] [Announcer] The disarmament conference met in Geneva on Thursday for the last time this year. It considered the final wording of the all round convention on

banning chemical weapons and destroying them. Here is what Radio Moscow's military observer Valeriy Chebotaryev says:

[Chebotaryev in Russian fading to English report] The 20 year long preparation of a document on chemical disarmament is practically over, says Valeriy Chebotaryev. Most of those who carried out this huge amount of work are convinced that the convention drafted by the special committee for chemical weapons will be a major agreement in the field of disarmament. This is because it covers a whole class of mass destruction weapons. [passage omitted]

Russia has clearly stated readiness to be a signatory to the convention on chemical disarmament. What is more, it claims permanent membership on the executive council of the convention whose headquarters will be in The Hague.

At the same time, Russia believes that some additional work should be done with the present text of the convention. For instance, the latest variant says that all expenses on international inspection should be shouldered by the country which is destroying chemical weapons. That means Russia will have to spend practically half of all the money assigned for eliminating poisonous chemicals on inspection alone. The country's present economic situation does not allow it to do this all alone.

There are also objections to the formula which demands the elimination of all facilities turning out chemical weapons. The point is that after Russia stopped producing poisonous chemicals in 1987 those factories were remodeled and started putting out chemicals for peaceful use and so their elimination would be ruinous for Russia.

At the same time, Russia does not dramatize the situation. It believes that the remaining problems can be settled before January of next year when the convention is to be open for signing. What gives it such confidence is the fact that the agreement has recently been signed under which the United States will give Russia \$25,000,000 to help eliminate chemical weapons. A number of other countries are also ready to help it. In conclusion I would like to say that the convention on chemical disarmament is expected to go into force in 1995.

[Announcer] That was a commentary by Radio Moscow military observer Valeriy Chebotaryev.

Ukraine Scientists Develop N-Waste Disposal Plan

*OW2708204592 Moscow INTERFAX in English
1818 GMT 27 Aug 92*

[Transmitted via KYODO]

[Text] Ukrainian scientists develop a program for disposing of nuclear waste that has been highly praised by US, Dutch, French and Swedish scientists, says one of its architects, Ukrainian Geology Institute official Dmitriy Khrushchov. The program envisages long-term and ecologically safe depositing and final dumping of nuclear waste at medium and great depths in three basic soil formations: crystalline, saline and argillaceous.

The program has been submitted to the Ukrainian Government for consideration. The scientists expect to receive allocations for the program, which has already been launched in 1993.

Ukraine Halts N-Waste Train From Hungary

*PM0309143592 Moscow IZVESTIYA in Russian
2 Sep 92 Morning Edition p 5*

[Report by Fedor Lukyanov: "Nuclear Train Waits on the Track"]

[Text] Budapest—Contrary to the claims by certain Russian publications, the "nuclear train" carrying radioactive waste from the Paks Nuclear Power Station in Hungary has not yet set off for Chelyabinsk, where until recently they received spent nuclear fuel under a long-term agreement. Despite the Russian authorities' permission to accept the shipment, the train carrying the containers is unable to leave at the moment because it has not been given transit permission by the Ukrainian authorities.

Jozsef Szabo, deputy director of the Hungarian nuclear power station, reported this to journalists. All six containers of spent radioactive fuel are waiting to be sent to a protected area in Paks. According to J. Szabo, 14 tonnes of spent fuel are removed from each unit of the nuclear power station every year. It stands in special tanks for five years and is then sent to Russia in special containers, to the well-known "Mayak" combine in Chelyabinsk.

Built in the 70s and 80s with the USSR's assistance and still the only nuclear power station in Hungary, the Paks Nuclear Power Station, which, incidentally, provides more than half of all the electricity consumed in Hungary, had a long-term contract with the Russian "Tekhsnabeksport" association to reprocess spent fuel. Problems began for the Hungarians, apparently, when the Russian law on environmental protection prohibited radioactive materials and waste from other countries from being delivered to or buried on Russian territory. But as a result of negotiations with the Hungarians the Russian authorities recently gave permission for the train to come from Paks. The snag is that there is no legislation in sovereign Ukraine as yet regulating the passage of radioactive waste.

But that is not the whole problem. As the Hungarian paper NEPSZABADSAG writes, there is a plan to construct a joint radioactive waste storage facility in Russia and an intermediate storage facility for spent fuel in Hungary itself.

...As for the construction plans in Russia, I believe our side should think long and hard before making a decision.

Kazakh, U.S. Official Discuss N-Arms Reduction

*LD0109172492 Moscow ITAR-TASS in English
1517 GMT 1 Sep 92*

[By ITAR-TASS correspondent Andrey Naryshkin]

[Text] Moscow September 1 TASS—The Republic of Kazakhstan is committed to the spirit and letter of the agreements on strategic armaments concluded at the level of the CIS heads of state and advocates scrupulous compliance with the provisions of the Strategic Arms Reduction Treaty

(START), Kazakh Defence Minister Sagadat Nurmagambetov told Steven Steiner, the U.S. representative in the special commission to monitor compliance with the START treaty, today.

The top-ranking U.S. diplomat arrived in Alma-Ata for a protocol meeting to acquaint himself with the Kazakh leaders' position on issues related to the reduction and elimination of strategic nuclear armaments that are deployed on the republic's territory.

A spokesman in the Kazakh Defence Ministry's press service told ITAR-TASS by telephone that the sides achieved mutual understanding on all aspects of the problems discussed.

U.S. Ambassador to the Republic of Kazakhstan William Courtney attended the meeting.

Kazakh Nuclear Science Facilities' Future Eyed

*PM0409131792 Moscow KOMSOMOLSKAYA
PRAVDA in Russian 2 Sep 92 p 2*

[Report by Ye. Dotsuk: "What Is Causing the Former Test Site To Shake? Economic and Political Contradictions in the CIS Putting Nuclear Industry's Future in Doubt"]

[Text] Alma-Ata—The Baykonur complexes which are almost like something out of science fiction, the Semipalatinsk nuclear test site which is of priceless value to science, and several other top secret nuclear facilities, all of which were once known to only a very narrow circle of people involved in research of almost global significance, today find themselves on the nuclear scrap heap (as local poets now call sovereign Kazakhstan).

The Mangyshlak Peninsula has been keeping one such secret for 20 years now. Until now it had been believed that its oil had breathed life into the deserted town of Shevchenko. Whereas, in fact, the city was built to mine uranium.

Oil was found here only much later. In those days, 20 years ago, the world's first BN-350 fast-neutron nuclear reactor was launched. Had it not been for the absolute secrecy of science, this would have been a sensation for all mankind!

It was the first installation on the planet using a sodium coolant. One kg of uranium was deposited in the reactor, and it yielded not only energy but also over 1 kg of another fuel—plutonium. Western scientists called the BN-350 the installation of the future.

The idea of combining production of electricity and drinking water in the desert with the aid of the fast-neutron reactor, which was implemented here, also proved a stroke of genius. The artificial water produced in the reactor proved to be of surprising quality, incomparably better even than the waters of rivers, lakes, and underground sources which contain heavy metals and oxides... When filtered through the nuclear distiller, the water of the Caspian Sea becomes 10,000 times purer, being transformed into ecologically exemplary drinking water.

In the period of common Soviet history this water had brilliant prospects—it was planned to produce a blood

substitute of vital importance to medicine which was to have been called "aqua vita"—in translation from Latin, "water of life."

Moreover, these prospects still remain today; only their implementation has become problematic. Formerly the nuclear reactor and its artificial water belonged to the whole empire—to the Ministry of Medium Machine Building—but now, with its transfer to the ownership of Kazakhstan, there are insufficient funds for further research. True, for the time being there are still the people—specialists from the presovereignty era. But of course, they will not be there forever either.

Meanwhile, Western and several Eastern countries, taking advantage of our successes, are beginning to move forward. Although we built the distiller in Yemen, a nuclear installation similar to our own is operating in Mexico, and Israel intends to install its own. Incidentally, the so-called flash evaporation method, which Japan and several Near East countries have now borrowed, was also invented here in Shevchenko. After all, scientists have long been predicting a severe shortage of drinking water on Earth. "Water will be dearer than bread." People are preparing.

Moreover, according to the assessments of some experts, there is only enough oil and gas left in the depths of the planet for about 15 years (others claim for 25-30 years), and coal and gas reserves are running out. Sooner or later nuclear electric power could be the only source of heat and light. But, while having excellent initial possibilities today, we risk lagging indefinitely behind those who came after us.

Incidentally, there was an attempt in the United States to trigger an explosion in a reactor similar to the one in Shevchenko by way of an experiment. The Americans modeled a systems failure in it along the lines of the Chernobyl accident. The pumps were fully de-energized, the circulation of the coolant having been shut down. In other words, all mechanisms were jammed, as though after an earthquake. The experiment with the explosion was unsuccessful. The BN-350 and its analogues are built on feedback principles—any deviation in the operation leads to the reactor itself extinguishing a chain reaction!

A reactor of the next generation has been created in Shevchenko now; it is called "Aktau-1". It has as of today the highest safety specifications. This installation is considered to be the reactor of the 21st century.

If you add to these technologies Kazakhstan's huge reserves of uranium and advanced industrial infrastructure for prospecting and mining it, you could not dream of a better base. Now we have almost achieved the main objective in the development of nuclear science—people's safety.

Another magnificent inheritance of the former Union is the "Luch" Science and Production Association, situated at the Semipalatinsk test site. During tests, in addition to nuclear weapons research, it was studying the problems of the safety

of nuclear power, but more importantly, it was engaged in the creation of a nuclear jet engine.

There are three reactors here. One of them was once jokingly called DOU-3. It was Kurchatov's brain child. After he had suffered two heart attacks, he hurried to finish the installation before the third hit. They say that this reactor also has no counterpart in the world. The reactor also cancels the growth of a nuclear reaction inside itself.

The other two research reactors are called IVG. One of them is a mysterious nuclear reactor invented back in the seventies. But then it was largely not needed, and the installation was used only as a reactor. Fuel-assemblies can be created in these installations and tested at temperatures of over 3,000 degrees Kelvin in hydrogen. This is why it is at the "Luch" Science and Production Association that the main research will soon be conducted into the purpose-built NJE reactor—the nuclear jet engine necessary for the voyage from Earth to Mars. The Americans will most probably also join in this work by Soviet scientists. Because, according to the assessments of the well-known U.S. firms "Aerojet" and "Babcock and Wilcox," "the purpose-built installations of the 'Luch' Science and Production Association possess potential which at present is unrivaled in the world."

I confess that, while in Semipalatinsk, I experienced an almost forgotten feeling of pride in the country.

I have spoken about just two of the secrets of the Soviet Union, which raised us to the level of a superpower in the past. But at other times also, you will agree, it felt good to know that we were citizens of that power.

Today having shared out the achievements, everyone finds himself in absurd situations, however. The cart remains in Kazakhstan. But the horse and cab driver have disappeared to Russia. Gradually everything has begun to fall into neglect. Because test sites, cosmodromes, and science in general require big money and top scientists, who are today trained only in Russia—a huge division of labor, when all is said and done.

The Baykonur ccsmodrome has swiftly begun to turn into an open-air space museum. In order to revive this facility, which is of global significance, Russia and Kazakhstan signed an agreement on the joint use of Baynokur at presidential level last spring. Perhaps we have now gone our separate ways enough to begin to unify? Maybe, other threads will follow Baynokur and begin to bind together the former republics?

In any case, throughout the period since the USSR's disintegration, President Nazarbayev has been instilling into the consciousness of the people of Kazakhstan the idea that, whatever the turn of events in the development of the CIS, Russia and Kazakhstan must stay together. Although this is not very pleasing to the intransigent national opposition, which sees such statements as an attack on the country's sovereignty.

But after all, there is such a delicate factor between these countries as their common nuclear future. Even if it will no longer now be a question of nuclear weapons, but of nuclear science. A science that is mortally dangerous in a situation of instability and enmity, self-extinguishing reactors or no. But, at the same time, it is also extremely important for people living in peace.

Swedish Nuclear Experts Visit Ignalia Plant

*LD2808174892 Vilnius Radio Vilnius Network
in Lithuanian 1800 GMT 27 Aug 92*

[Text] This week a delegation of Swedish parliamentarians and nuclear energy experts led by Lars (Ekberg), general director of the Swedish nuclear energy inspectorate, visited the Ministry of Power Engineering, the nuclear safety inspection [as heard], and the Ignalina nuclear power station.

During a meeting with Minister of Power Engineering Professor Leonas Asmantas, academician Jurgis Vilimas, head of the Lithuanian nuclear safety inspection, Povilas Vaisnys, and other republican power engineering experts, prospects for cooperation between the neighboring states in improving the safety of the Ignalina nuclear power station and the training of necessary experts in Sweden were discussed.

It was noted that at present Swedish organizational and technical assistance is so abundant that we, in our small republic with a modest staff of experts, are not managing to implement it in good time. It is essential to speed up the training of staff, making use of the proposed goodwill.

Bashkortostan Establishes Export Controls

*924P0168B Moscow NEZAVISIMAYA GAZETA
in Russian 20 Aug 92 p 3*

[Unattributed NETA report under the rubric "Bashkortostan"]

[Text] Bashkiria is setting up a system of export control in the military field. It includes organs of state power and government whose activity should be focused on preventing damage to Bashkiria's state interests from exports to foreign countries of raw and processed materials, scientific-technical information, and services which are employed or may be employed when weapons and military equipment are created.

This also relates to technologies, equipment, and services of peaceful employment which may be used when missile, nuclear, chemical, and other types of weapons of mass destruction are being created.

A commission on export controls has been set up under the Bashkortostan government and is headed by the deputy chairman of the republic's Council of Ministers, the minister of economics R. Zhemaletdinov.

AUSTRIA

Uranium Smugglers Sentenced to 7 Months in Prison

*AU0809101392 Vienna WIENER ZEITUNG
in German 8 Sep 92 p 5*

[Unattributed report: "Prison Sentences for Uranium Smugglers"]

[Text] Dr. Peter Kominek (43), graduate engineer Jan Cermak (38), and graduate engineer Juraj Schmida (39) from Slovakia were finally sentenced in Vienna on 7 September to seven months imprisonment each (five months of which were probation) for having violated the security control law. The three men had smuggled about 3 kg of uranium.

The smuggled goods consisted of 62 uranium-oxide pellets (tablets) consisting of slightly enriched uranium, 70 uranium-oxide pellets of natural uranium, and 45 rods of metallic natural uranium.

In early June Vienna was intended to be the place of transshipment for the uranium, which came from Hungary. Schmida affirmed that the "goods" could only have been used for scientific purposes. The men would have earned 2 million schillings for 1 kg.

According to public prosecutor Josef Veigl, there was a danger that the smuggled goods might have been used "for nuclear weapons or other nuclear explosives."

In an expert's opinion the way the uranium was handled was described as "extremely negligent." The material was transported in a plastic bag. As far as the carriers are concerned, the expert said that it is "likely that they were contaminated by uranium-oxide dust."

In giving the reasons for the judgment, Judge Peter Loybl again referred to the "complicated and dark ways of acquisition." The defendants stated that a Hungarian debtor had given them the uranium, as it were, as security in lieu of payment.

Kominek said that he had been of the opinion that the uranium was destined for a South American nuclear power plant.

FINLAND

Russia To Receive Used Nuclear Fuel Despite Ban

*LD0309112192 Helsinki Suomen Yleisradio Network
in Finnish 0500 GMT 3 Sep 92*

[Text] Imatran Voima [IVO—state power company] believes that Russia will continue to receive the used fuel from Loviisa nuclear power station despite the fact that Russia's new law on environmental protection bans the import of nuclear waste from other countries. Imatran Voima's uranium consignment for this year is still awaiting permission from Russia to be sent to that country. Kalevi Numminen, IVO's managing director, believes that as long as an agreement is reached on the price, the used fuel will in the future also be transported to Russia.

[Begin recording] [Numminen] We have here in Finland the Teollisuuden Voima [TVO] power company which in any event is prepared for the storage of nuclear waste in the Finnish bedrock, as is known, and if it were to happen that Russia will not receive this waste then we would of course join the same storage plan which TVO has. I still believe that Russia will receive the waste and the question is more a question of how much we are prepared to pay for that.

[Unidentified correspondent] So you trust the power of money?

[Numminen] In the talks that we have conducted with the Russians the uppermost question has been how much the reimbursement for that will be.

[Correspondent] Kalevi Numminen, managing director of Imatran Voima, if it were to happen that Russia no longer wants to receive the used fuel from nuclear power stations, what would that mean for Finland's eventual new nuclear power station project?

[Numminen] As far as I can see, nothing, because as I said we already have the TVO power station in any case whose plans include the storage of waste deep in the Finnish bedrock. This technology exists and the Swedes have the same technology—we developed it with the Swedes. As far as I can see, it should not cause any problems.

[Correspondent] What about the question where that power station might be ordered?

[Numminen] It would not affect that either because these calculations for a new nuclear power station have not taken into account the return of waste to the country of origin. That is not usually the case elsewhere in the world either, but each country is responsible for their own waste. This arrangement that we have had with the Russian station in Loviisa is very exceptional. [end recording]

FRANCE

Japanese Ship To Collect Reprocessed Plutonium

*LD2108081992 Paris Antenne-2 Television Network
in French 1100 GMT 20 Aug 92*

[Excerpts] Transportation of 1 tonne of plutonium by ship from France to Japan, a radioactive mission which is difficult, delicate and exceptional. In view of the danger posed by the cargo, the operation will be monitored by satellite and the Japanese ship will be escorted very closely: the date, timetable and route are being kept secret. Yannick Letranchant reports from Yokohama:

[Letranchant] Yokohama in Japan: The ship, Akatsuki Maru—the Rising Sun—is at the quayside. In a few days it will cast off for Cherbourg: Its mission will be to return to Japan with 1 tonne of plutonium reprocessed at the La Hague plant. [passage omitted] Everything will be coordinated by the American, French and Japanese secret services. [passage omitted]

GERMANY

Foreign Minister Kinkel Welcomes CW Convention

LD0409133692 Hamburg DPA in German 0817 GMT 4 Sep 92

[Text] Bonn (DPA)—Foreign Minister Klaus Kinkel today in Bonn welcomed the chemical weapons convention concluded in Geneva after nine years of negotiations. The minister expressly praised the success of the German diplomat and leader of the negotiations, Adolf Ritter von Wagner, who achieved the breakthrough. Kinkel announced that during his visit to the United Nations at the end of September he will appeal to all states to join this worldwide ban on chemical weapons as original signatories at the signing conference in Paris in 1993. This is "one of the core objectives of German foreign policy," Kinkel stressed.

Company Signs CW Destruction Deal in Russia

LD0609145392 Hamburg DPA in German 1413 GMT 6 Sep 92

[Text] Frankfurt/Main (DPA)—The chemical installations company Lurgi AG in Frankfurt/Main has signed a cooperation agreement with a delegation from Russia on the destruction of chemical weapons in Russia. The company announced today that a German-Soviet joint venture with the partners Metalchim Progress AG and Entsorgungs-und Sanierungstechnik GMBH [EST] will be set up as soon as possible. EST is owned 50 percent each by Deutsche Aerospace AG and Lurgi-Umweltbeteiligungsgesellschaft MBH.

The plans envisage the construction and operation of a large processing plant in the Russian republic of Udmurtia, where 7,000 tonnes of the chemical weapon levasit are being stored. Later, six to seven similar installations are to be built at other locations in Russia, the only CIS republic where chemical weapons are being stored. It is necessary to decentralize the destruction because Russia does not want to carry out transfers for security reasons.

Lurgi's parent company, Metallgesellschaft AG, Metalchim, and DASA are already cooperating in the disposal of conventional ammunition in Russia.

SWEDEN

Russians Refuse Scientists at Nuclear Waste Sites

LD0609125392 Stockholm Sveriges Radio Network in Swedish 1030 GMT 6 Sep 92

[Text] Russian authorities are refusing entry to Norwegian scientists to study areas which are assumed to be dumps for nuclear reactors and radioactive waste. The Norwegians suspect that the Russians have dumped a large number of nuclear reactors in the Arctic. Here is a report from Oslo:

[Per Ritzler] At least 13 reactors have been dumped, some 10 of them in three bays east of Novaya Zemlya. Three of the reactors come from the atomic-powered icebreaker Lenin, while the other reactors presumably are from atomic-powered submarines. In addition, the Russians are supposed to have dumped a large number of barrels or small

containers holding radioactive waste into the sea. The reports range from 13,000 to 17,000 barrels with low radioactive waste.

In a conversation this morning with Magne Roeed of the Environment Ministry's international department here in Oslo says that it has not been possible to obtain confirmation about the reports of the Russian dumping, originating largely from Grenpeace, but that the Russian authorities are not denying facts when confronted with them.

Roeed is also chairman of the group of experts which has negotiated a research project between Russian and Norwegian authorities, which is currently in progress. The Russian research vessel Viktor Buynitskiy, which has a number of Norwegian researchers on board, together with a representative of the International Atomic Energy Agency, will in one week's time complete work on mapping out the extent of the Russians' dumping of nuclear waste in the Barents Sea, among others, and the possible consequences of the waste for the seabed and marine life.

It is also the research project's ambition to take a closer look and map out particular areas where reactors and other nuclear waste dangerous to the environment have been dumped. The Russian authorities have said no to this, however. The researchers have not been granted access to the three bays east of Novaya Zemlya where some 10 reactors are supposed to have been dumped into the sea. The Environment Ministry in Oslo explains the Russian no partly by referring to the heavy Russian bureaucracy with several decisionmaking stages with which they have to deal and the slowness among the Russian military to adopt openness.

At the Nordic environment ministers' meeting in Kirkenes this past week criticism was voiced against the Russian-Norwegian research project, among other things because the researchers were denied access to some Russian waters.

Magne Roeed thinks that the project has achieved some success. Roeed and the ministry want to hold back on further reports that add to those that have been published until the researchers have collected and processed the data. When the research work is completed in a week's time, the ambition is to proceed with attempts to seek out those areas where the Russians have dumped radioactive waste and reactors in order to define them more closely.

UNITED KINGDOM

Russian Jet Fitted With Laser Bomb Displayed

LD0809112792 London PRESS ASSOCIATION in English 1048 GMT 8 Sep 92

[By Charles Miller and Peter Woodman, PRESS ASSOCIATION]

[Text] Electronics giant GEC-Marconi is applying for government clearance to sell the laser bomb director that helped win the Gulf war—for use on Russian aircraft. The TIALD pod is on display at the Farnborough Air Show fitted to Russia's latest and most advanced jet, the Su-35. It is

currently in service with the RAF Tornados flying reconnaissance missions over southern Iraq.

GEC-Marconi today confirmed it was applying for clearance to sell it to countries seeking to buy advanced Russian combat aircraft. "The aim is that, with the CIS trying to sell their aircraft to Third World countries and earn hard currency, we would fit a pod on to their aircraft in the customer country," said a company spokesman. But he stressed there was no suggestion of selling the pod, the most advanced of its type in the world, to the Russians and that exports would depend on clearance from the Ministry of Defence and the Foreign Office.

By displaying it on a Su-35 at the show the company is demonstrating to potential customers that it can be fitted to most combat aircraft. The TIALD (Thermal Imaging and Laser Designator) was rushed out to the Gulf virtually off the production line in the early stages of the war when there was a clear need for precision, laser-guided bomb attacks. It "illuminates" a target and the laser-guided bombs follow its track to the target, and can also be used to provide vital reconnaissance information from heights of around 20,000ft. It is currently being used in this role by three Tornado GR1 bombers over southern Iraq to help protect the marsh Arabs from attacks by Saddam Husayn's troops.

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